

FIG. 1

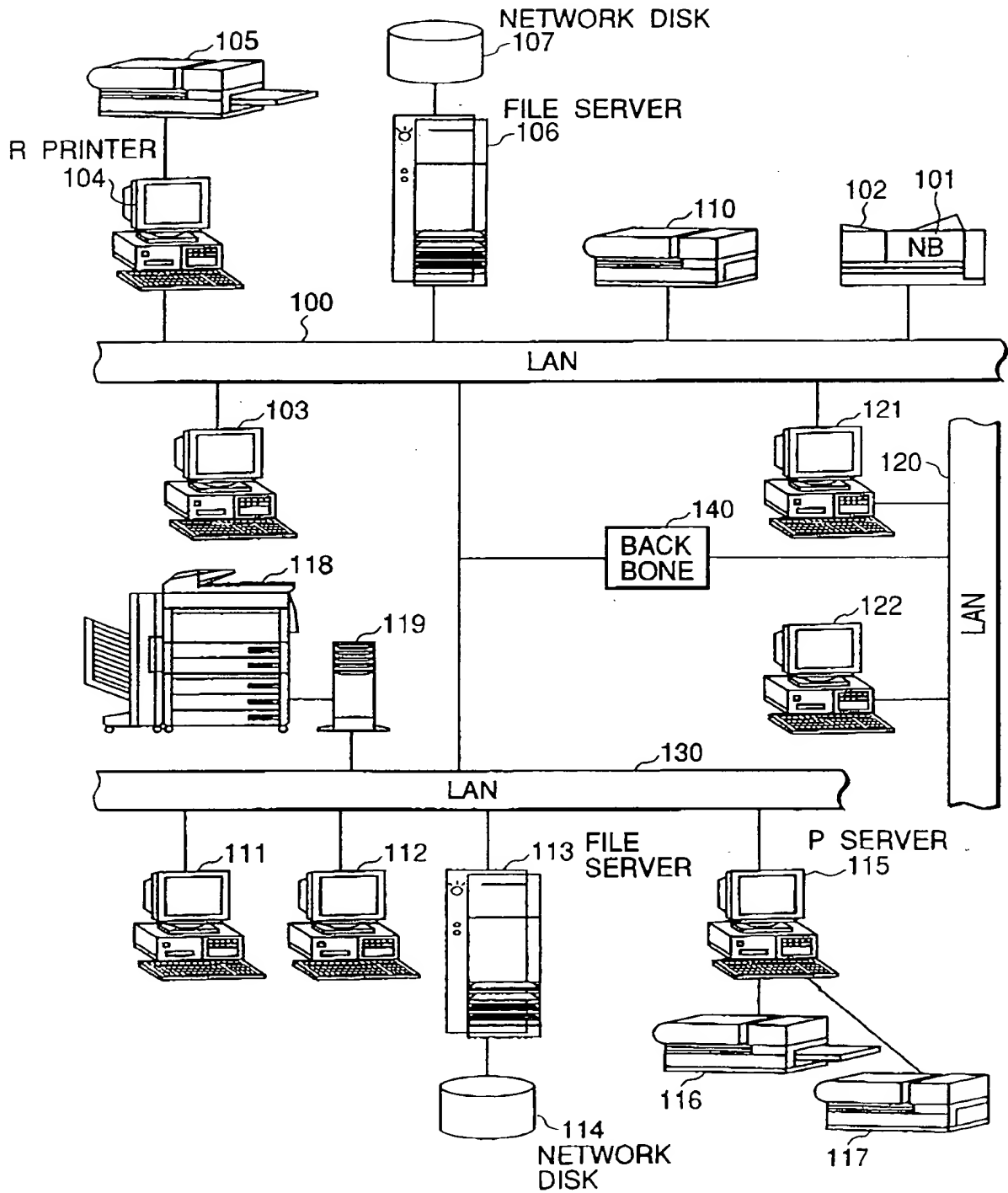
[illegible]

FIG. 2

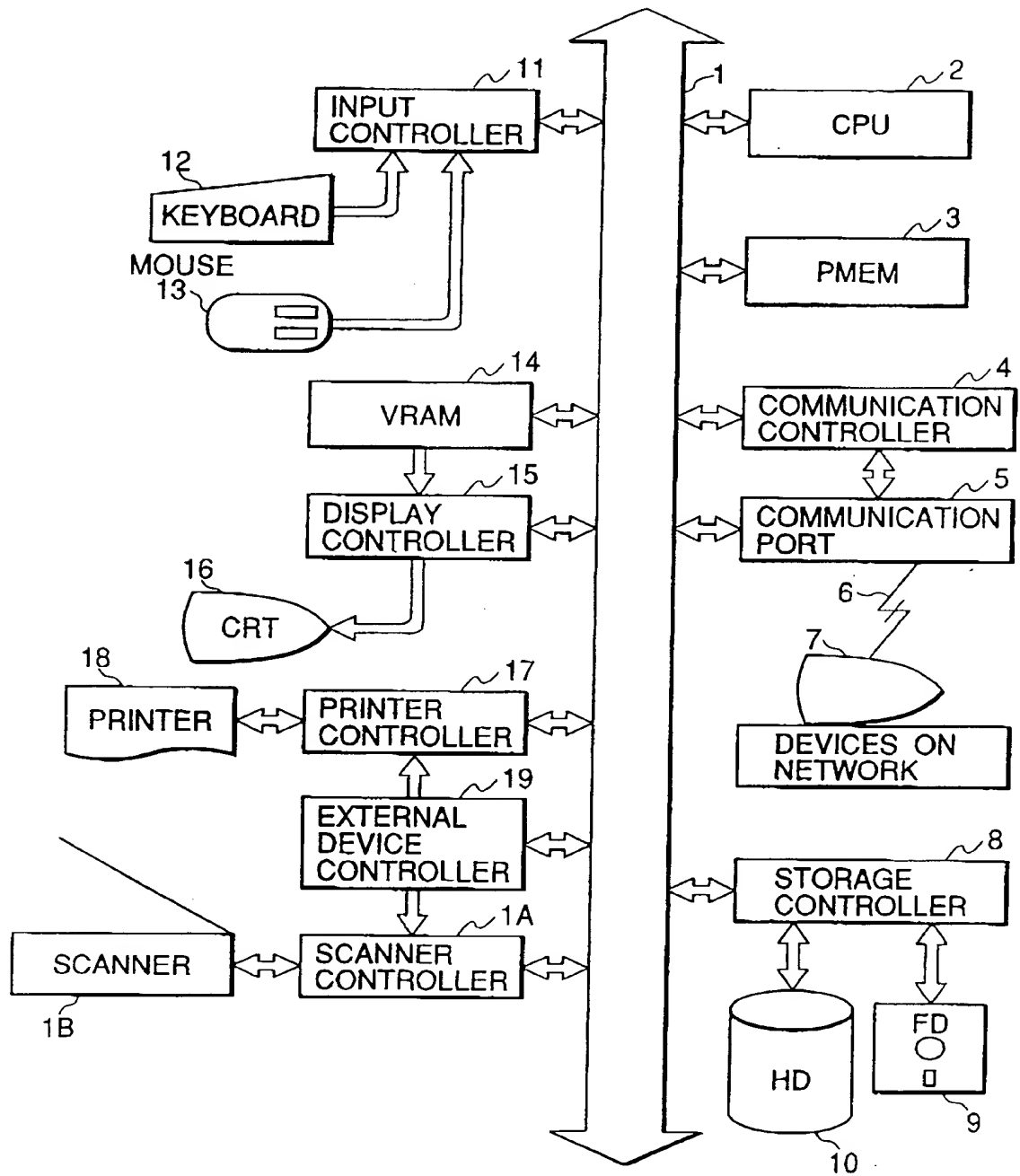


FIG. 3

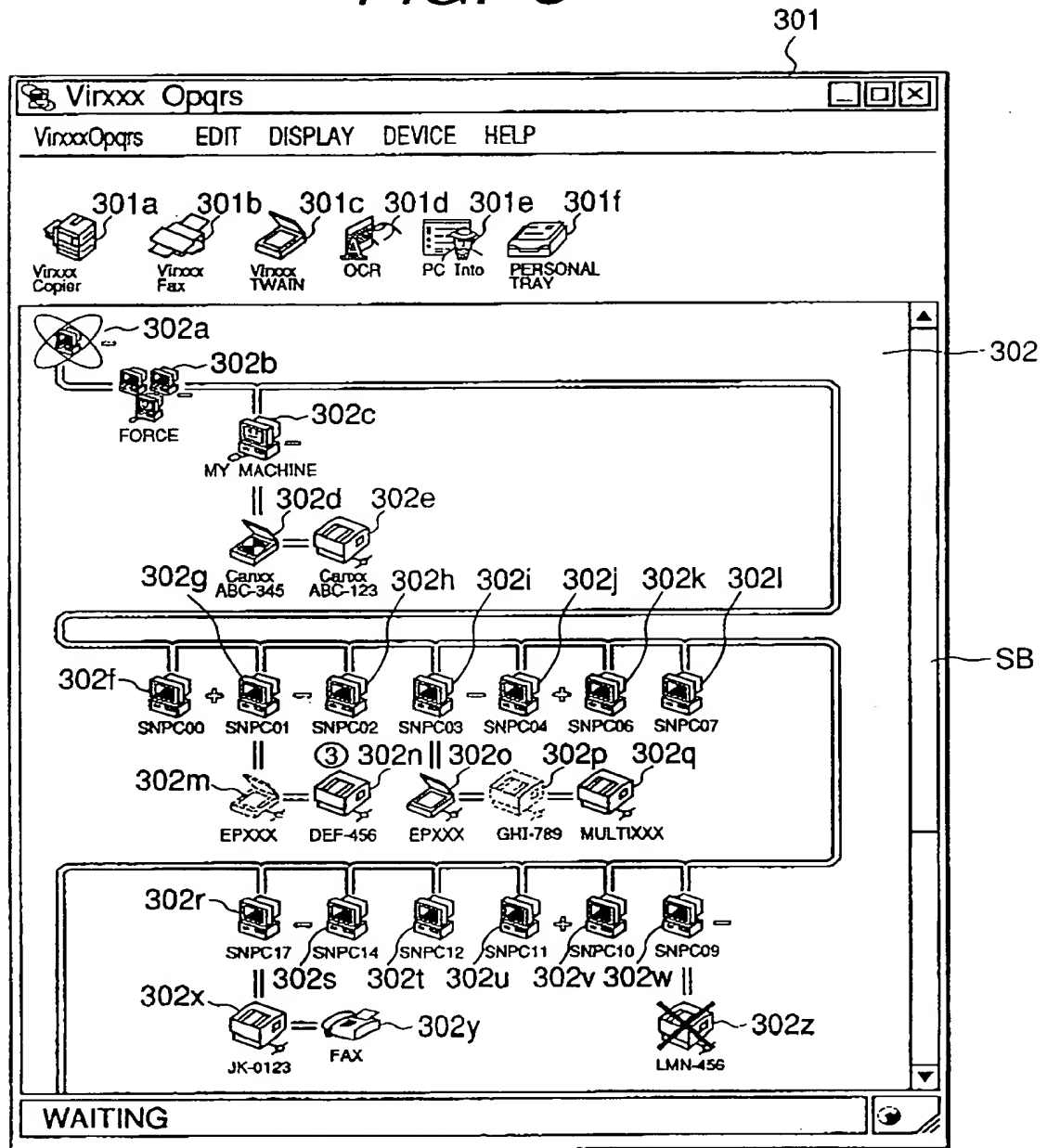


FIG. 4

Virxx Copy

DEF456(SNPC01) > CanxxABC-123(ABxxx)

100% 403 A4 404 A4 404 COLOR 1 406

SIZE:x1 SIZE:x? 401 INPUT... OUTPUT... 406 MODE 405

100 % 408 LAYOUT... 405

DENSITY: THIN 409 THICK

IMAGE QUALITY: 200dpi HIGH SPEED 410 HIGH QUALITY

SCAN:

CHANGE I/O DEVICE 412 RESET 413 STOP 414 START COPY 415

407

411

INPUT SIZE

OUTPUT SIZE

OUTPUT AREA

FIG. 5

501

| |
|--|
| Virxxx Opqrs |
| COMBINATION AS DESIGNATED IS NOT VALID. |
| <input style="border: 1px dashed black; padding: 2px 10px;" type="button" value="OK"/> |

FIG. 6

| | | |
|--|-----------|------|
| NO. OF REGISTERED FUNCTIONS | | 601 |
| COMMENT | | 602 |
| 603 1 | SCANNER | 603a |
| | PRINTER | 603b |
| | COPIER | 603c |
| | COMMENT | 603d |
| <div style="text-align: center;">⋮</div> | | |
| 604 N | SCANNER | 604a |
| | FAX MODEM | 604b |
| | FAX | 604c |
| | COMMENT | 604d |

FIG. 7

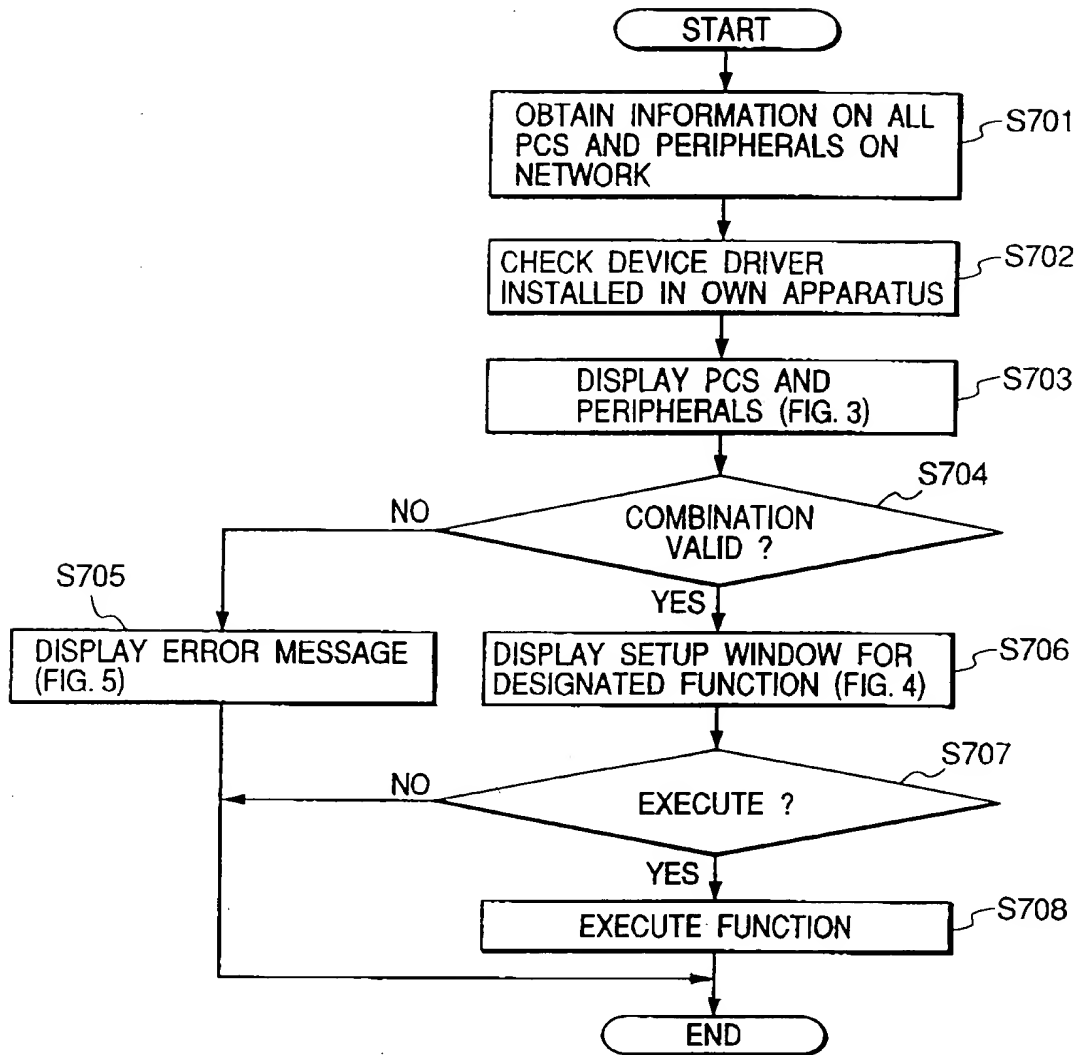


FIG. 8

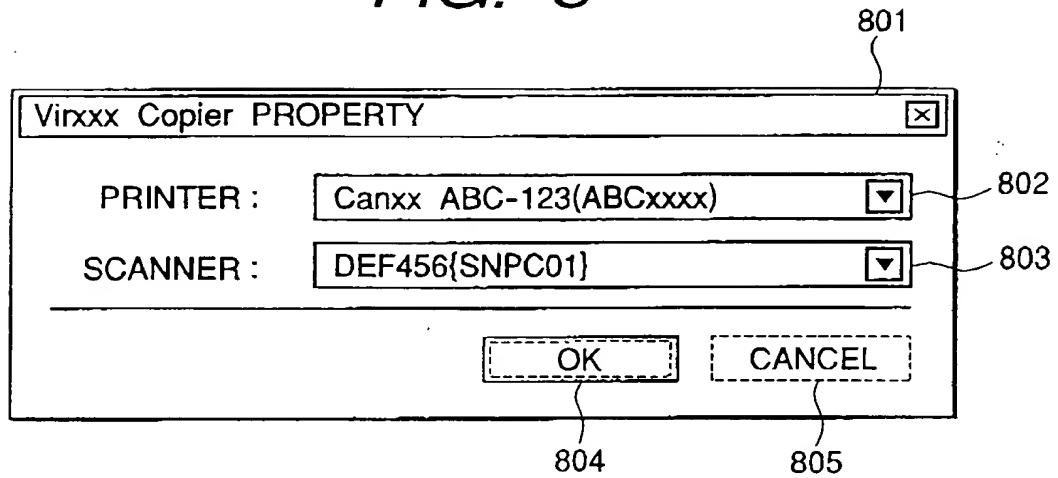


FIG. 9

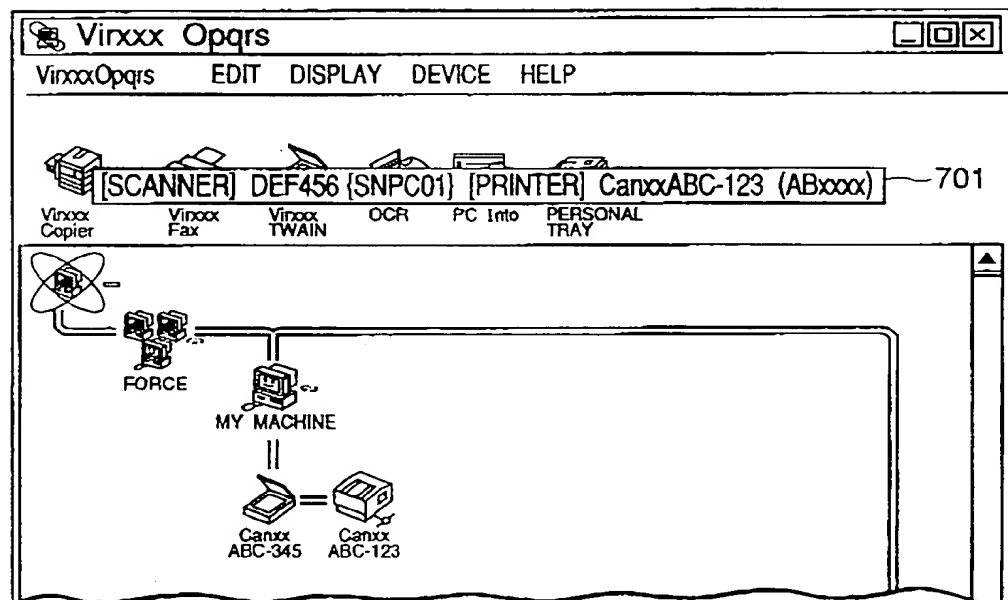


FIG. 10

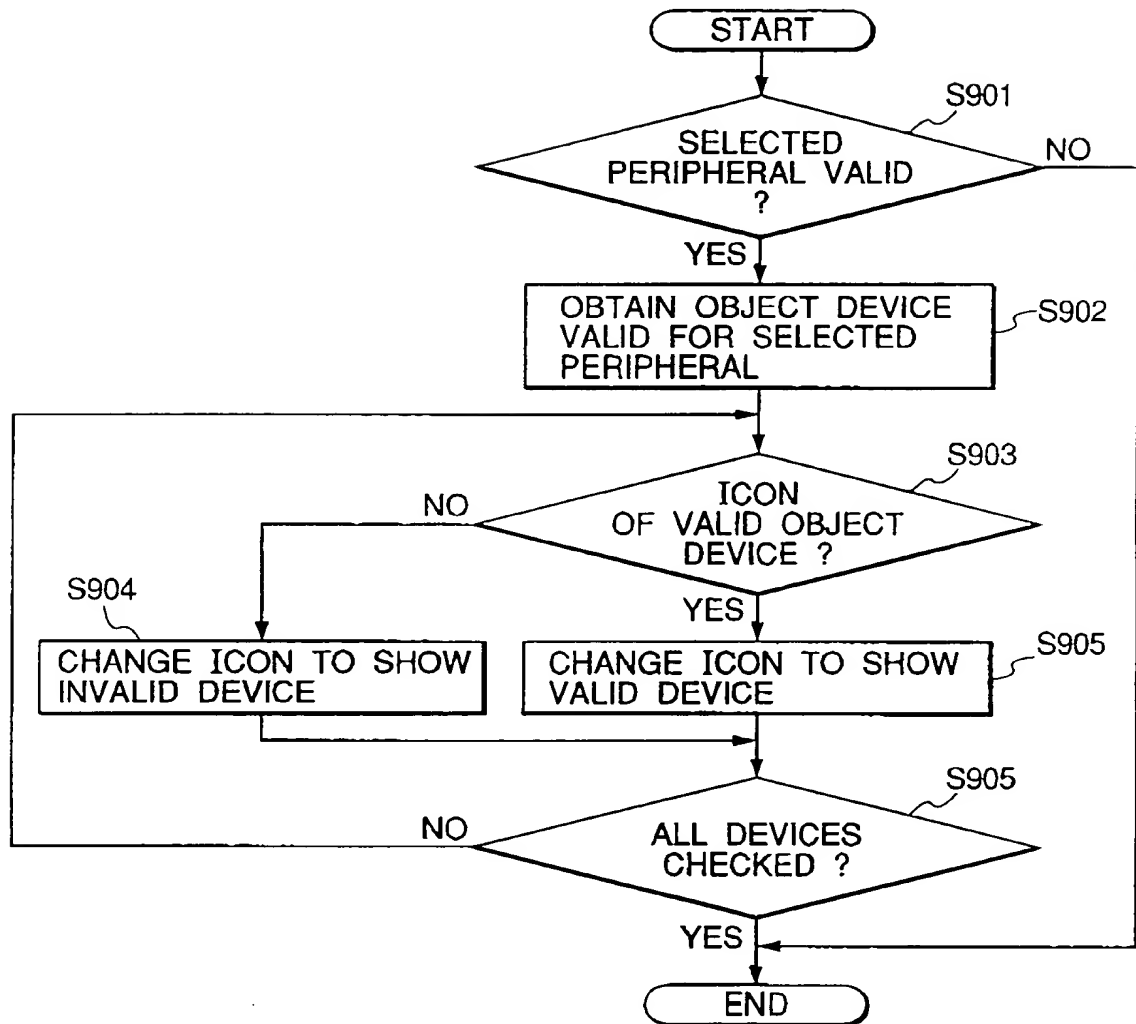


FIG. 11

| | | | |
|-----------------------------|---|-------------------|-------|
| NO. OF REGISTERED FUNCTIONS | | 1101 | |
| COMMENT | | 1102 | |
| 1103 | 1 | DEVICE ATTRIBUTE | 1103a |
| | | DRIVER NAME | 1103b |
| | | COMBINED FUNCTION | 1103c |
| | | EXECUTION MODULE | 1103d |
| ⋮ | | | |
| 1104 | N | DEVICE ATTRIBUTE | 1104a |
| | | DRIVER NAME | 1104b |
| | | COMBINED FUNCTION | 1104c |
| | | EXECUTION MODULE | 1104d |

FIG. 12

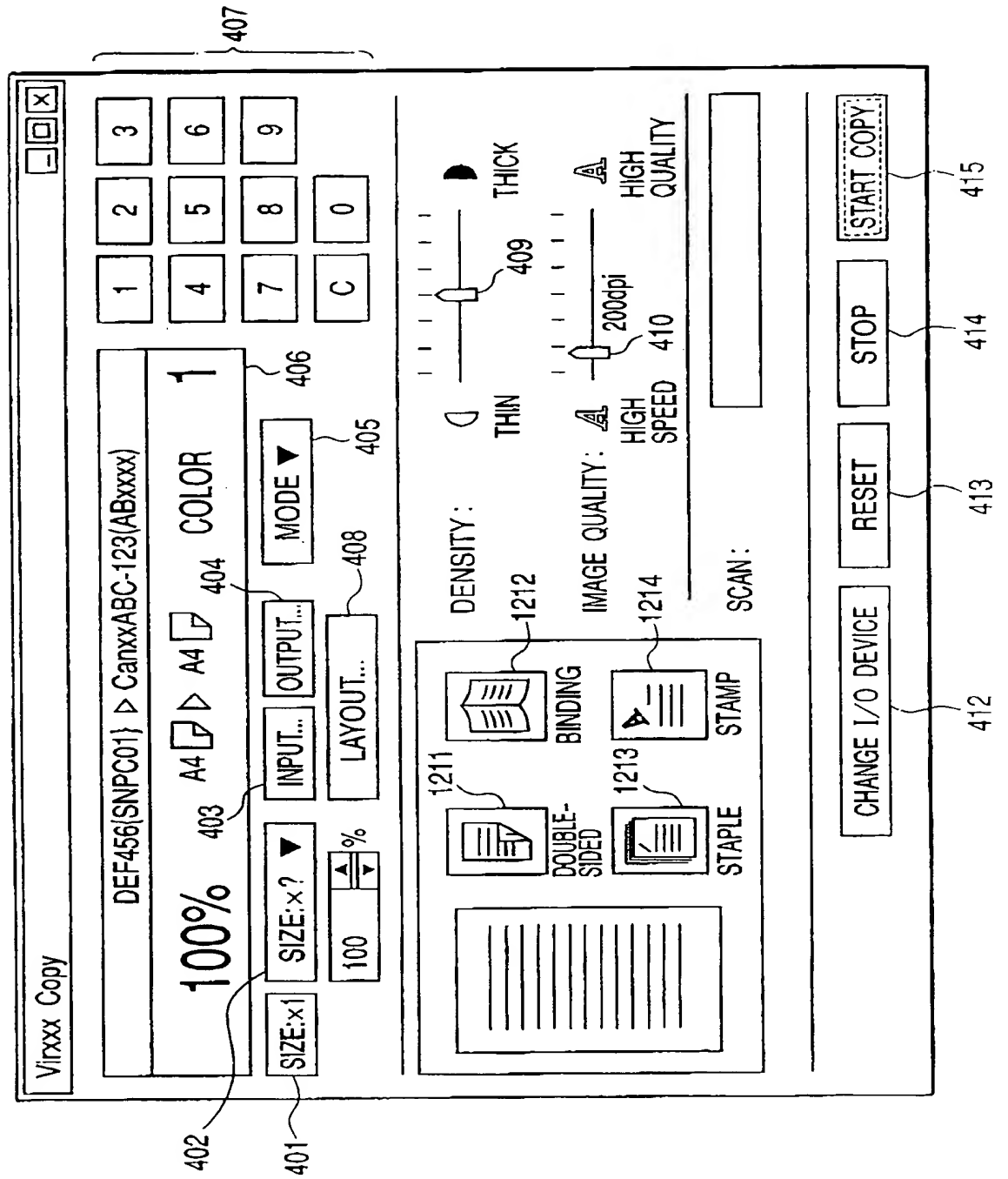


FIG. 13

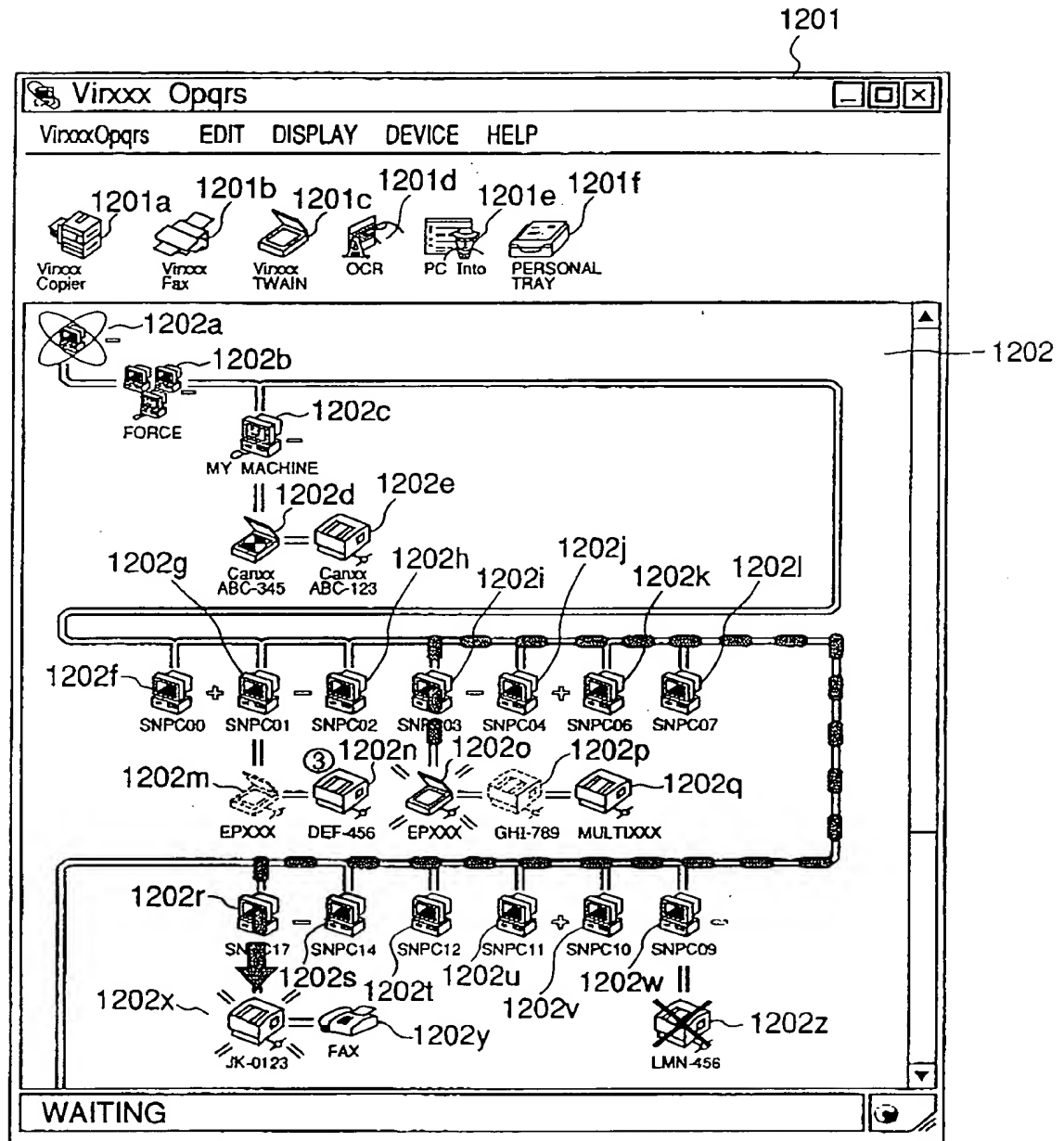


FIG. 14

MEMORY MAP OF MEMORY
MEDIUM (FD/CD-ROM ETC.)

| DIRECTORY |
|--|
| 1ST DATA PROCESSING PROGRAM PROGRAM CODES FOR FLOWCHART OF FIG. 7 |
| 2ND DATA PROCESSING PROGRAM PROGRAM CODES FOR FLOWCHART OF FIG. 10 |
| |

*FIG. 15*1500

| | | |
|---------------------|-------------------|------|
| PRINTER DRIVER NAME | | 1501 |
| VERSION | | |
| COMMENT | | |
| PAGE SETUP | ORIGINAL SIZE | 1502 |
| | PAPER SIZE | |
| | PRINT DIRECTION | |
| | PAGE LAYOUT | |
| | MAGNIFICATION | |
| | STAMP | |
| FINISHING | PRINTING METHOD | 1503 |
| | BINDING DIRECTION | |
| | EJECTION METHOD | |
| PAPER FEED | FEED METHOD | 1504 |
| | OHP SETUP | |
| DEVICE SETUP | FEED OPTION | 1505 |
| | EJECTION OPTION | |

Journal of Management Education 36(8) 907-924

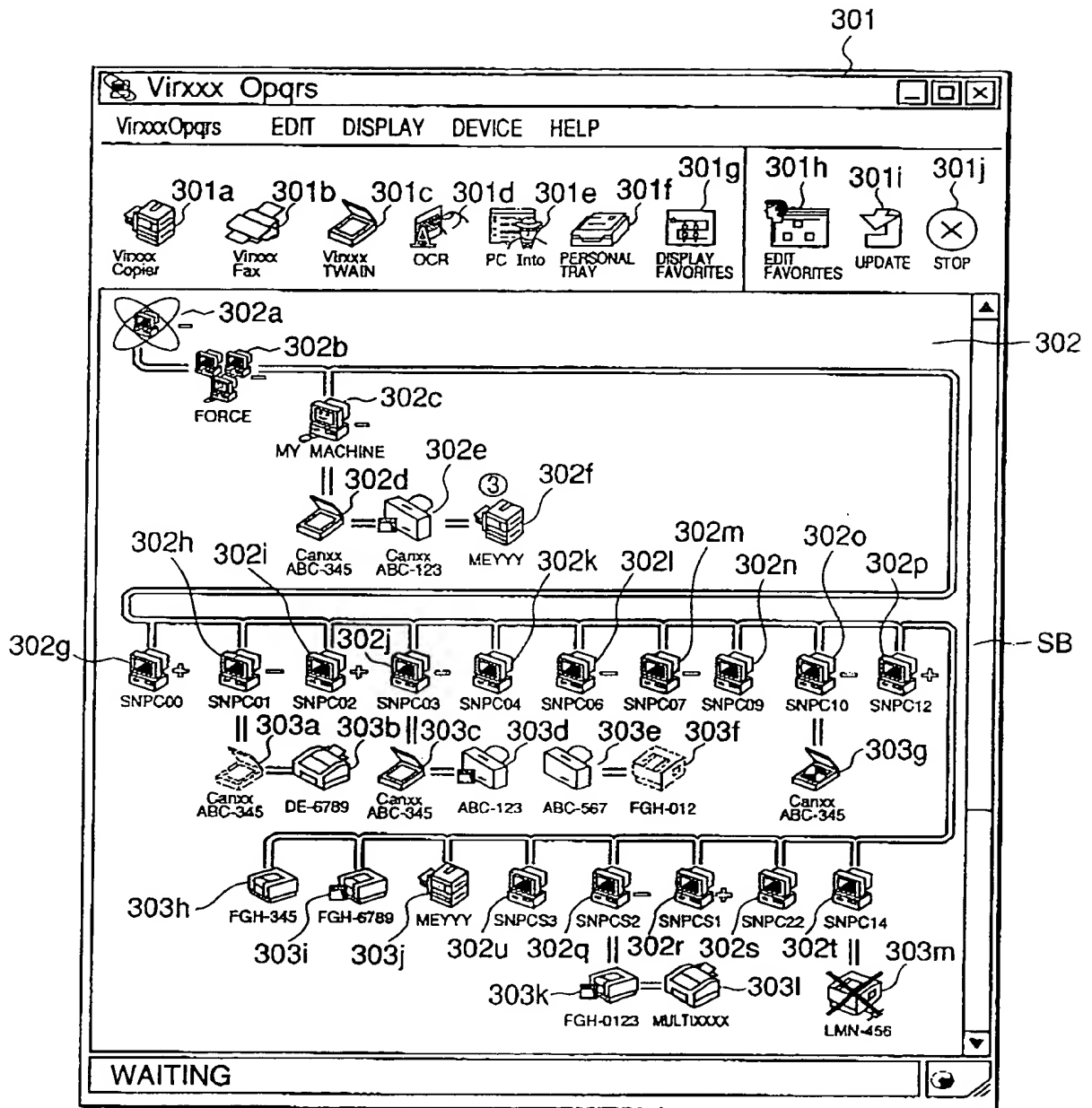


FIG. 17

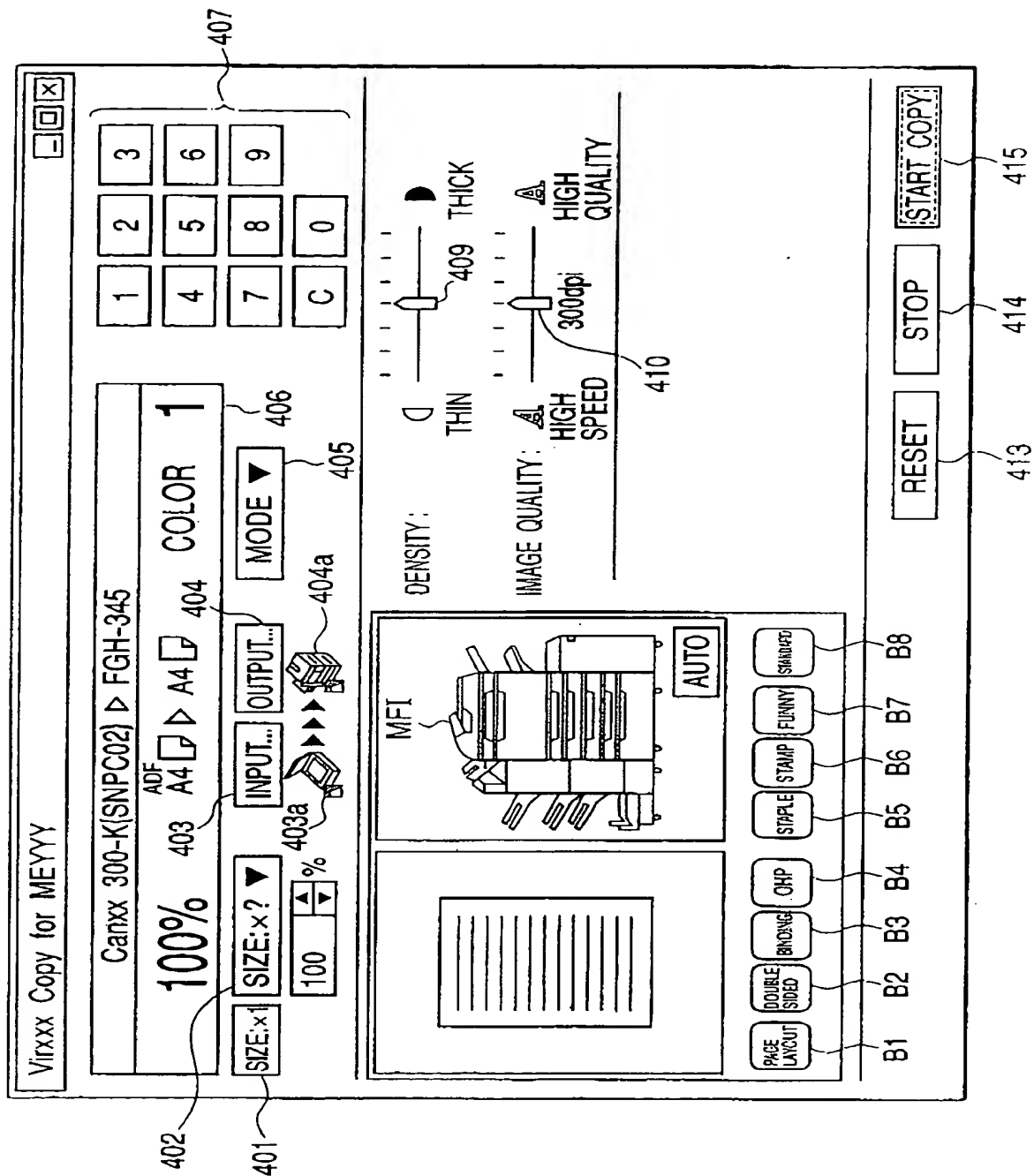


FIG. 18

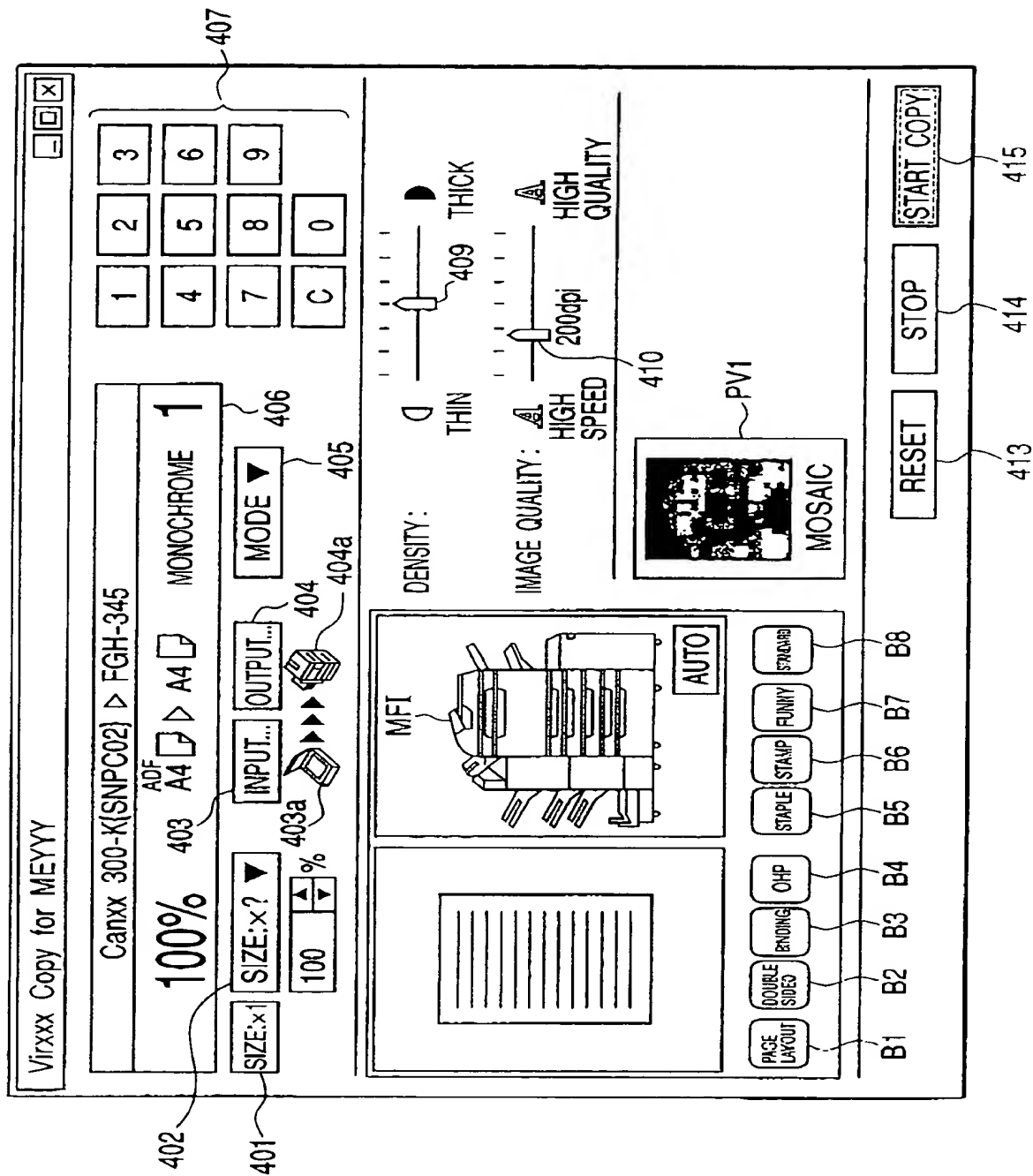


FIG. 19

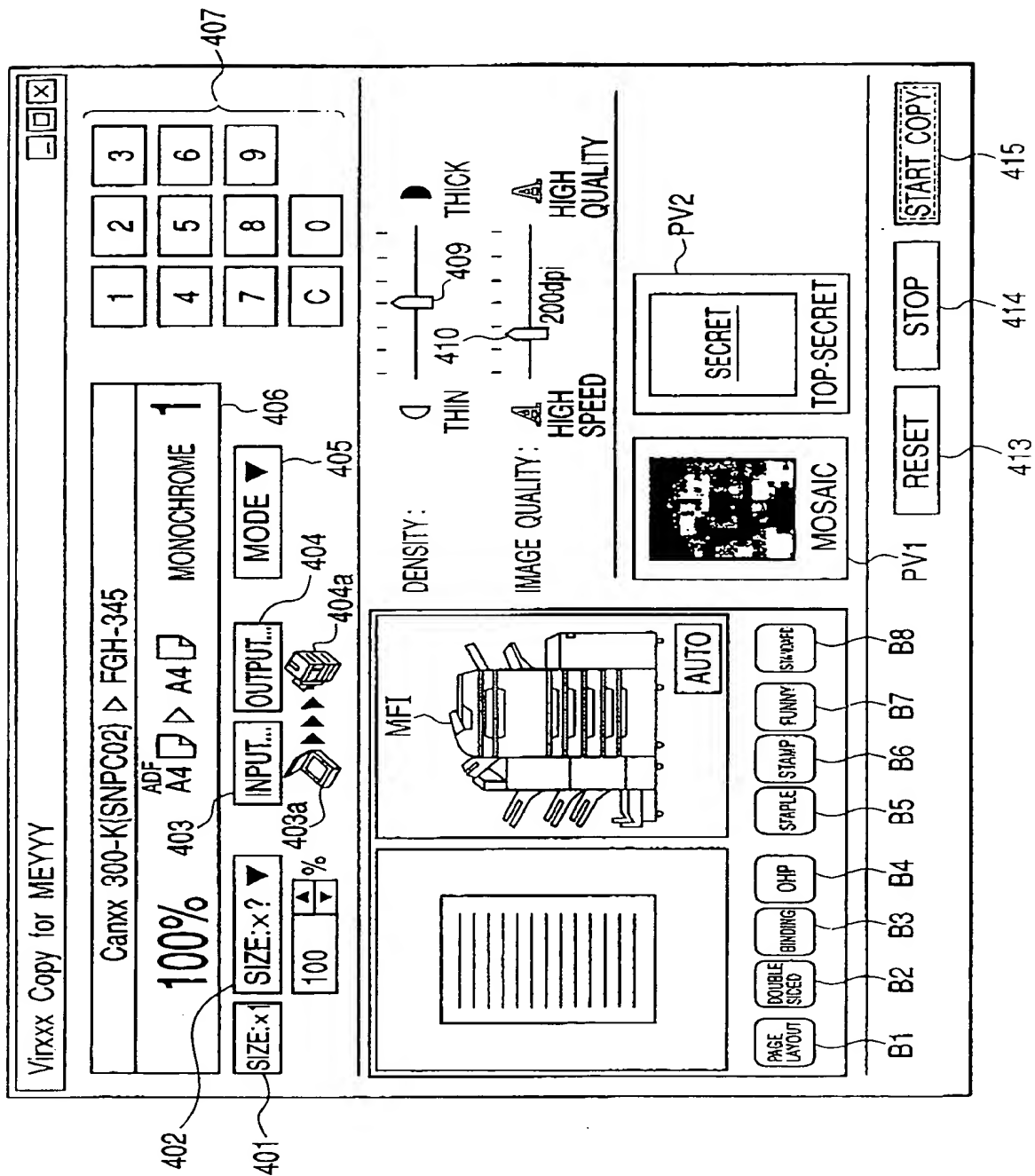


FIG. 21

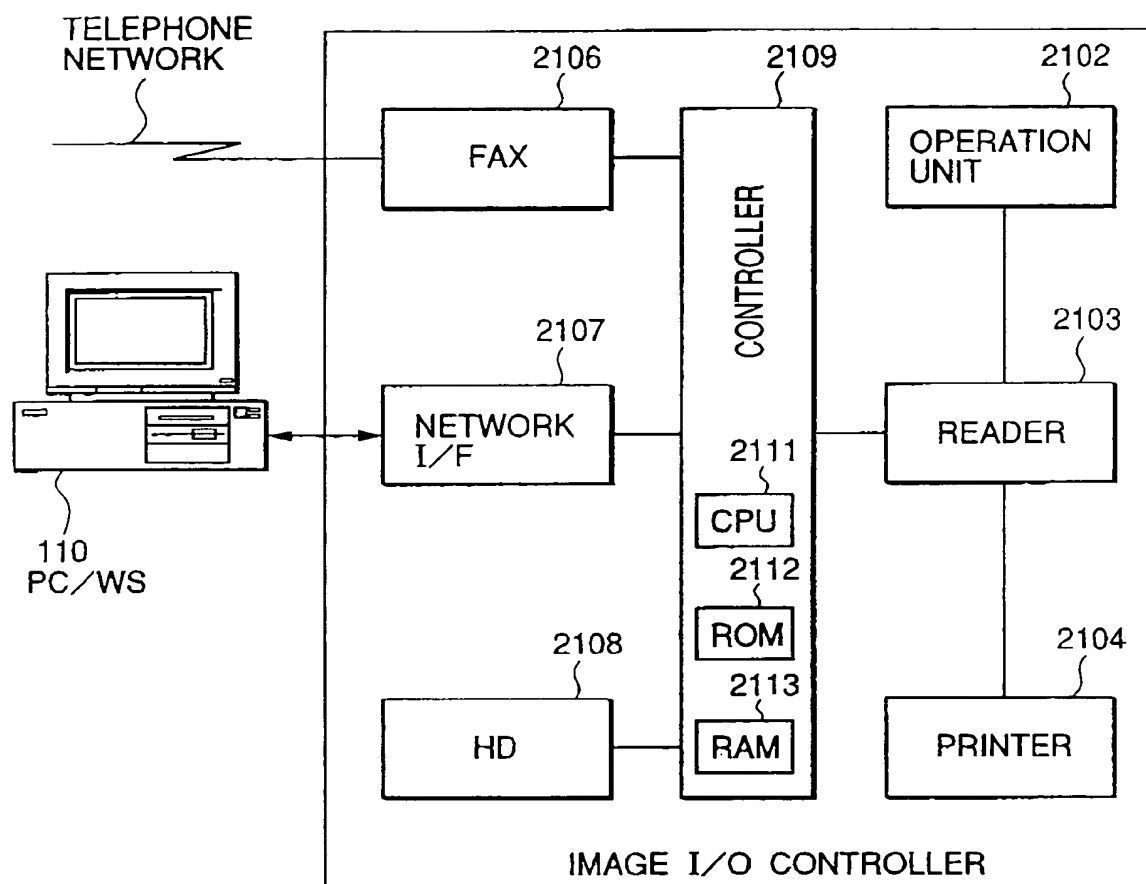


FIG. 22

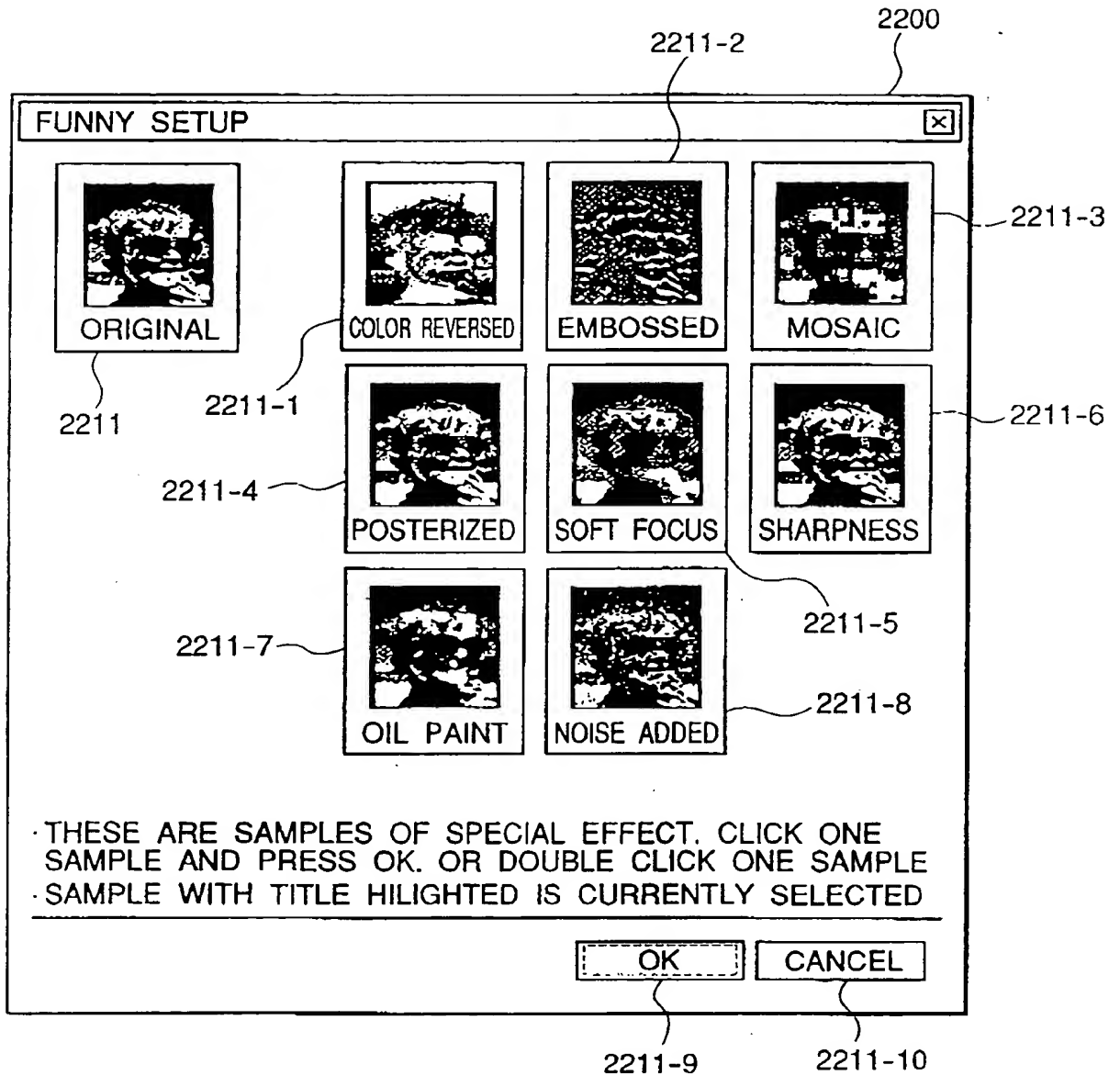


FIG. 23

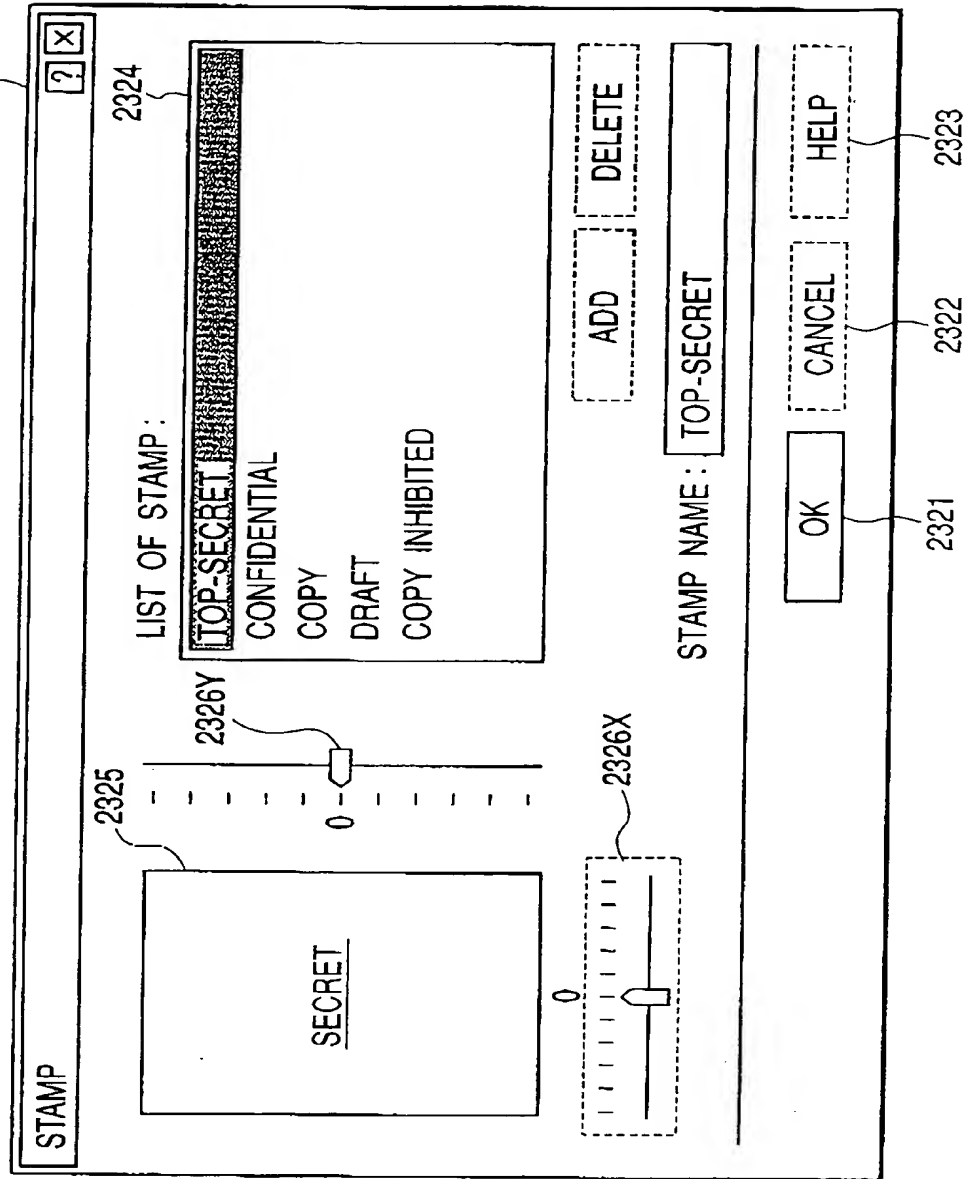
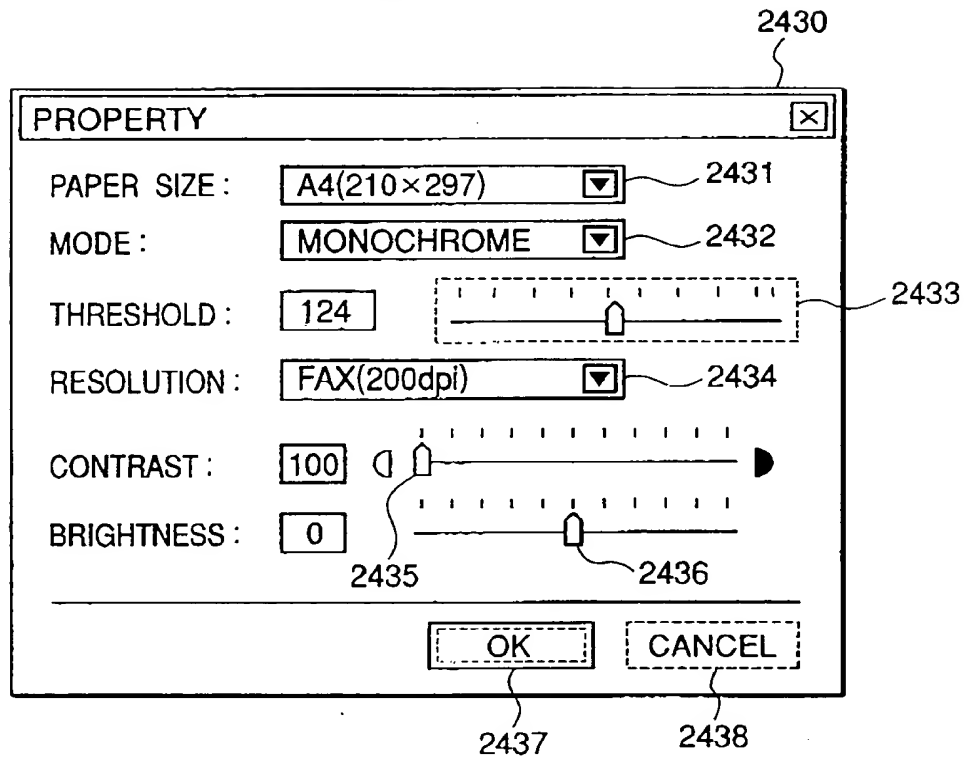


FIG. 24



• *Chlorophyll a* (Chl *a*)

| PRINTER DRIVER NAME | | } | 2501 |
|---------------------|-----------------|---|------|
| VERSION | | | |
| COMMENT | | | |
| PAGE SETUP | RESOURCE OFFSET | } | 2502 |
| | ORIGINAL SIZE | | |
| | RESOURCE OFFSET | | |
| | PAPER SIZE | | |
| | RESOURCE OFFSET | | |
| | PRINT DIRECTION | | |
| | RESOURCE OFFSET | | |
| | PAGE LAYOUT | | |
| | RESOURCE OFFSET | | |
| | MAGNIFICATION | | |
| | RESOURCE OFFSET | | |
| | STAMP | | |
| | RESOURCE OFFSET | | |
| | FINISHING | | |
| PRINTING METHOD | | | |
| RESOURCE OFFSET | | | |
| BINDING DIRECTION | | | |
| RESOURCE OFFSET | | | |
| EJECTION METHOD | | | |
| RESOURCE OFFSET | | | |
| PAPER FEED | RESOURCE OFFSET | } | 2504 |
| | FEED METHOD | | |
| | RESOURCE OFFSET | | |
| | OHP SETUP | | |
| | RESOURCE OFFSET | | |
| DEVICE SETUP | RESOURCE OFFSET | } | 2505 |
| | FEED OPTION | | |
| | RESOURCE OFFSET | | |
| | EJECTION OPTION | | |
| | RESOURCE OFFSET | | |
| RESOURCE DATA | | } | 2506 |

FIG. 26

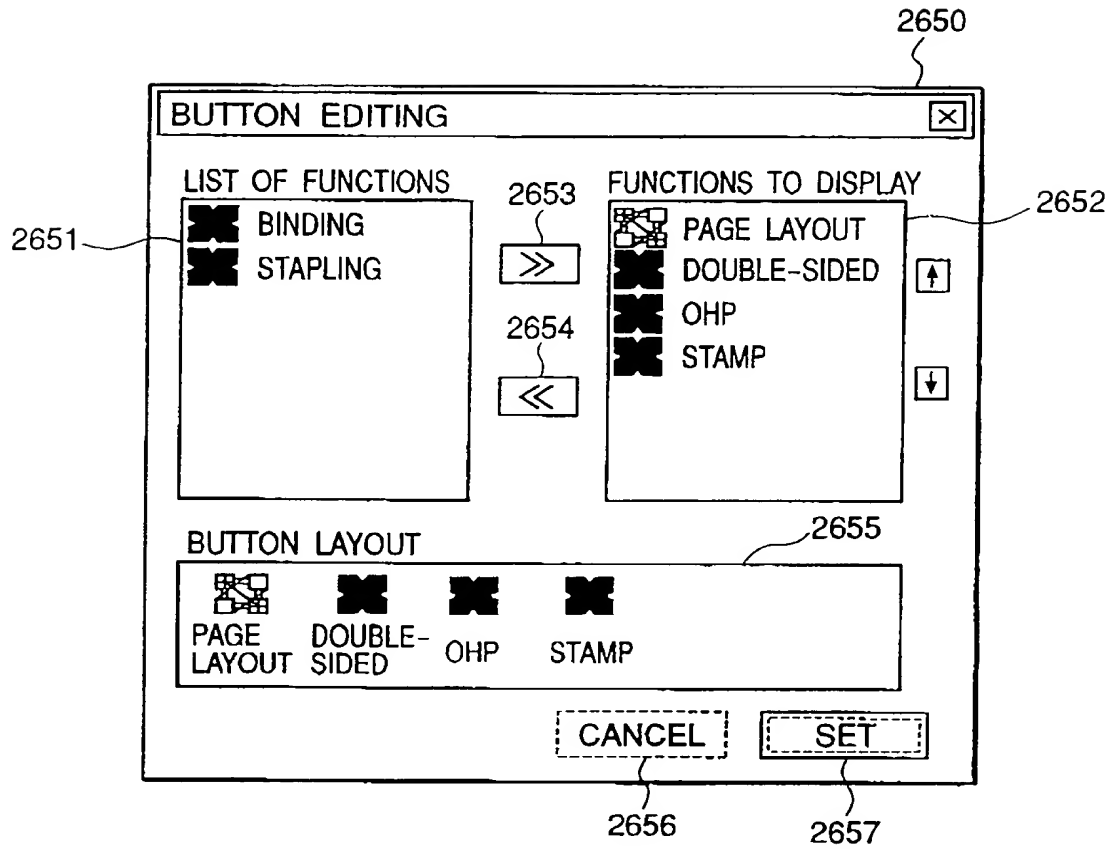


FIG. 27

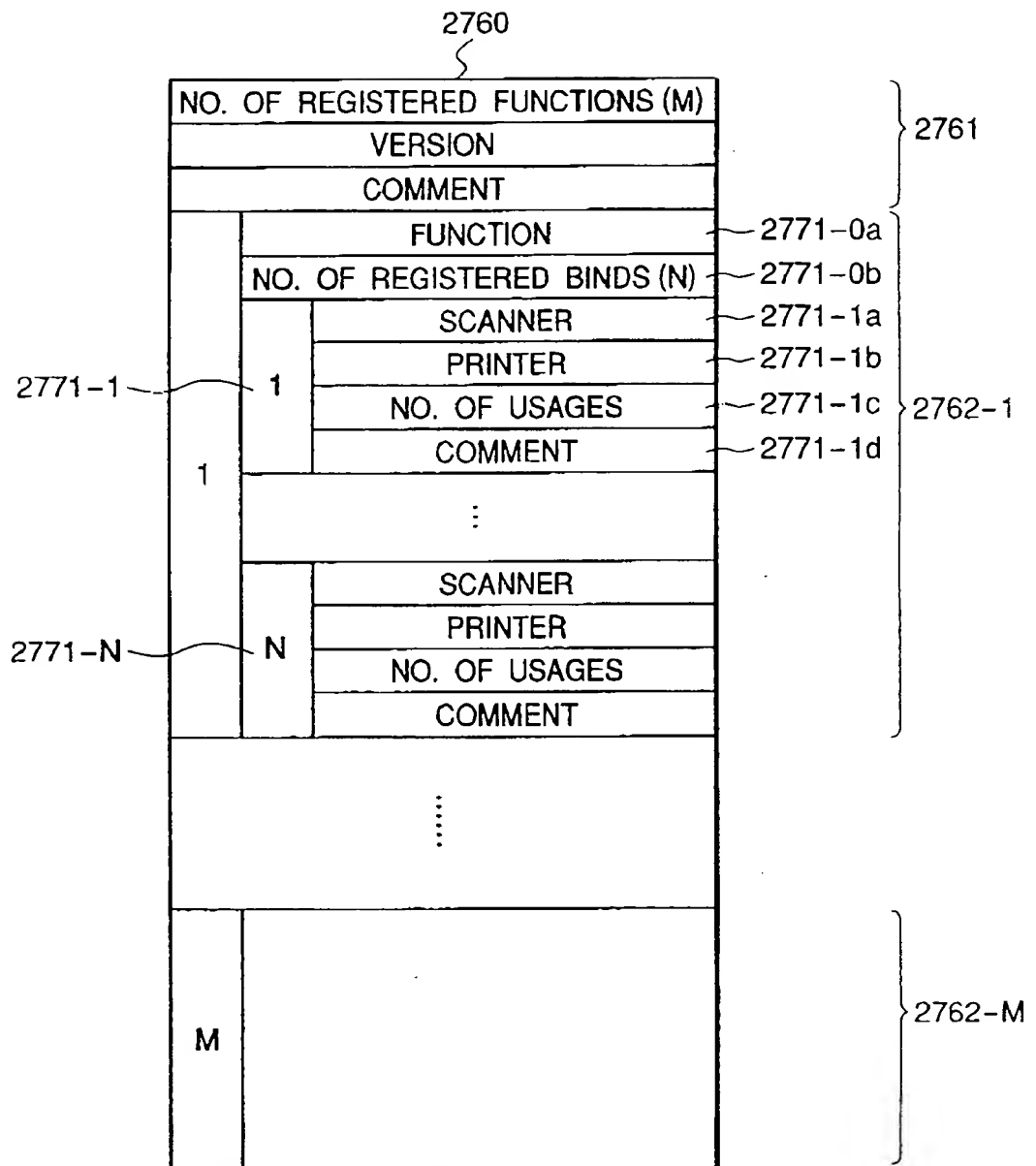


FIG. 28

2870

| | | | |
|-------------------------------|--------------------------------------|-----------------------|----------|
| MANAGEMENT DOMAIN NAME | | | } 2871 |
| NO. OF PRINTERS TO MANAGE (M) | | | |
| COMMENT | | | |
| 2881 | 1 | PRINTER NAME | } 2872-1 |
| 2882 | | NO. OF LOGS (N1) | |
| 2883 | | COMMENT | |
| | | INPUT INFORMATION | |
| | | NO. OF PAGES TO PRINT | |
| 2884-1 | | PAPER SIZE | |
| | | PAPER HEIGHT | |
| | | PAPER WIDTH | |
| | | COLOR/MONO | |
| | | SINGLE/DOUBLE-SIDED | |
| | TONER CONSUMPTION AMOUNT (Y, M, C,K) | | |
| | : | | |
| 2884-N1 | N1 | | |
| | | | |
| | | | |
| | | : | |
| | M | PRINTER NAME | } 2872-M |
| | | NO. OF LOGS (N2) | |
| | | COMMENT | |
| | | INPUT INFORMATION | |
| | | NO. OF PAGES TO PRINT | |
| | | PAPER SIZE | |
| | | PAPER HEIGHT | |
| | | PAPER WIDTH | |
| | | COLOR/MONO | |
| | | SINGLE/DOUBLE-SIDED | |
| | TONER CONSUMPTION AMOUNT (Y, M, C,K) | | |
| | : | | |
| | N2 | | |
| | | | |
| | | | |

FIG. 29

| ITEM | CONTENTS | DATA RECORDING |
|---------------------|--------------------------------|--|
| SENDER | SENDER OF FAX | ONLY WHEN FAX DATA CONTAINS VALID INFORMATION OF SENDER |
| FAX NO. | FAX NO. OF SENDER | ONLY WHEN FAX DATA CONTAINS VALID FAX NUMBER DATA IN CSI BLOCK |
| DATE | DATE OF FAX RECEPTION | YY/MM/DD HH:MM |
| RECEPTION RESULT | STATUS OF FAX RECEPTION | • NORMAL TERMINATION → SUCCESSFUL • OTHERWISE → FAILED |
| RECEPTION TIME | TIME TO COST RECEIVING DATA | THE FORMAT IS "HH:MM:SS". IN CASE OF LESS THAN 1 HOUR, THE FORMAT IS "MM:SS" |
| NO. OF PAGES | NO. OF PAGES RECEIVED | |
| ERROR | RECEIVE ERROR INF. | |
| RESOLUTION | RESOLUTION OF IMAGE RECEIVED | 100, 200DPI |
| COMPRESSION | COMPRESSION METHOD | MH, MR, MMR |

FIG. 30

| ITEM | CONTENTS | DATA RECORDING |
|---------------------|--|---|
| RECEIVER | RECEIVER OF FAX | RECEIVER'S NAME THAT IS INDICATED IN FAX SENDING DIALOG |
| FAX NO. | FAX NO. OF RECEIVER | |
| DATE | DATE OF FAX SENDING | YY/MM/DD HH:MM |
| SENDING RESULT | STATUS OF FAX SENDING | <ul style="list-style-type: none"> • NORMAL TERMINATION → SUCCESSFUL • PARTIALLY FAILED (SOME SENDING FAILED IN CASE OF MULTIPLE RECEIVERS) • OTHERWISE → FAILED |
| SENDING TIME | TIME TO COST SENDING DATA | THE FORMAT IS "HH:MM:SS". IF LESS THAN 1 HOUR, FORMAT IS "MM:SS" |
| NO. OF TRIALS | NO. OF SENDING TRIALS | |
| DOCUMENT NAME | DOCUMENT NAME THAT IS SENT | <ul style="list-style-type: none"> • IN VFAX PRINTER THE NAME OF PRINTED DOCUMENT • IN CASE OF VOC'S FUNCTION, (SCAN IMAGE AND SEND FAX) THIS NAME IS "PCNAME-YYMMDDHHMM.TIX" |
| NUMBER OF RECEIVERS | | |
| NO. OF PAGES | NO. OF PAGES SENT | SENT PAGES/TOTAL PAGE (EX. 25/100) |
| ERROR | ERROR INFORMATION OF THE JOB | ERROR INFORMATION LIKE "RECEIVER FAX IS BUSY" |
| SECTION OF RECEIVER | SECTION OF FAX RECEIVER | COMPANY NAME+SECTION NAME |
| COMMENT | COMMENT ON COVER PAGE | |
| RESOLUTION | RESOLUTION OF IMAGE SENT | 100, 200DPI |
| COMPRESSION | COMPRESSION METHOD | MH, MR, MMR |
| TIME TO SERVER | THE TIME FAX DATA IS RECEIVED TO SERVER'S WAITING TRAY | YY/MM/DD HH:MM |
| SENDER | USER NAME WHO SENDS THIS FAX | |
| SENDER PC | PC NAME OF SENDER | |

FIG. 31

| ITEM | CONTENTS |
|----------------------|---|
| USER NAME | USER NAME WHO PERFORMED SCANNING (INF. IN HTTP HEADER) |
| SCAN START TIME | START TIME OF TWAIN SESSION (CALL TIME OF SNTBEGINSESSION) |
| SCAN END TIME | END TIME OF TWAIN SESSION (CALL TIME OF SNTENDSESSION) |
| NO. OF SCAN PAGES | NO. OF PAGES OF SCANNED DOCUMENT (MAX 10 FIGURES) |
| MACHINE NAME | MACHINE NAME FOR SCAN (MAX 15 FIGURES) |
| TWAIN DRIVER NAME | TWAIN DRIVER NAME FOR SCAN (MAX 32 FIGURES) |
| | |
| PAPER SIZE | |
| PAPER HEIGHT | PAPER HEIGHT IN 1/10MM UNITS (MAX 4 FIGURES) |
| PAPER WIDTH | PAPER WIDTH IN 1/10MM UNITS (MAX 4 FIGURES) |
| COLOR/MONO | 1 : MONOCHROME 2 : COLOR |
| | |
| | |

FIG. 32

| ITEM | CONTENTS |
|---------------------------|--|
| USER NAME | USER NAME WHO PERFORMED PRINTING |
| PRINT START TIME | START TIME OF PRINT JOB |
| PRINT END TIME | END TIME OF PRINT JOB |
| NO. OF PRINT PAGES | NO. OF PAGES OF PRINTED DOCUMENT (MAX 10 FIGURES) |
| MACHINE NAME | MACHINE NAME FOR PRINT (MAX 15 FIGURES) |
| PRINTER DRIVER NAME | PRINTER DRIVER NAME FOR PRINT (MAX 32 FIGURES) |
| APPLICATION NAME | <ul style="list-style-type: none"> APPLICATION NAME THAT PERFORMED PRINTING FOR SCANNER, SCANNER MACHINE NAME, RESOLUTION COLOR/MONO |
| NO. OF COPIES | NO. OF COPIES DESIGNATED (MAX 6 FIGURES) |
| PAPER SIZE | |
| PAPER HEIGHT | PAPER HEIGHT IN 1/10MM UNITS (MAX 4 FIGURES) |
| PAPER WIDTH | PAPER WIDTH IN 1/10MM UNITS (MAX 4 FIGURES) |
| COLOR/MONO | 1 : MONOCHROME 2 : COLOR |
| SIGNAL/DOUBLE-SIDED | 1 : SINGLE 2 : DOUBLE |
| TONER AMOUNT (Y, M, C, K) | TONER CONSUMPTION AMOUNT |
| | |

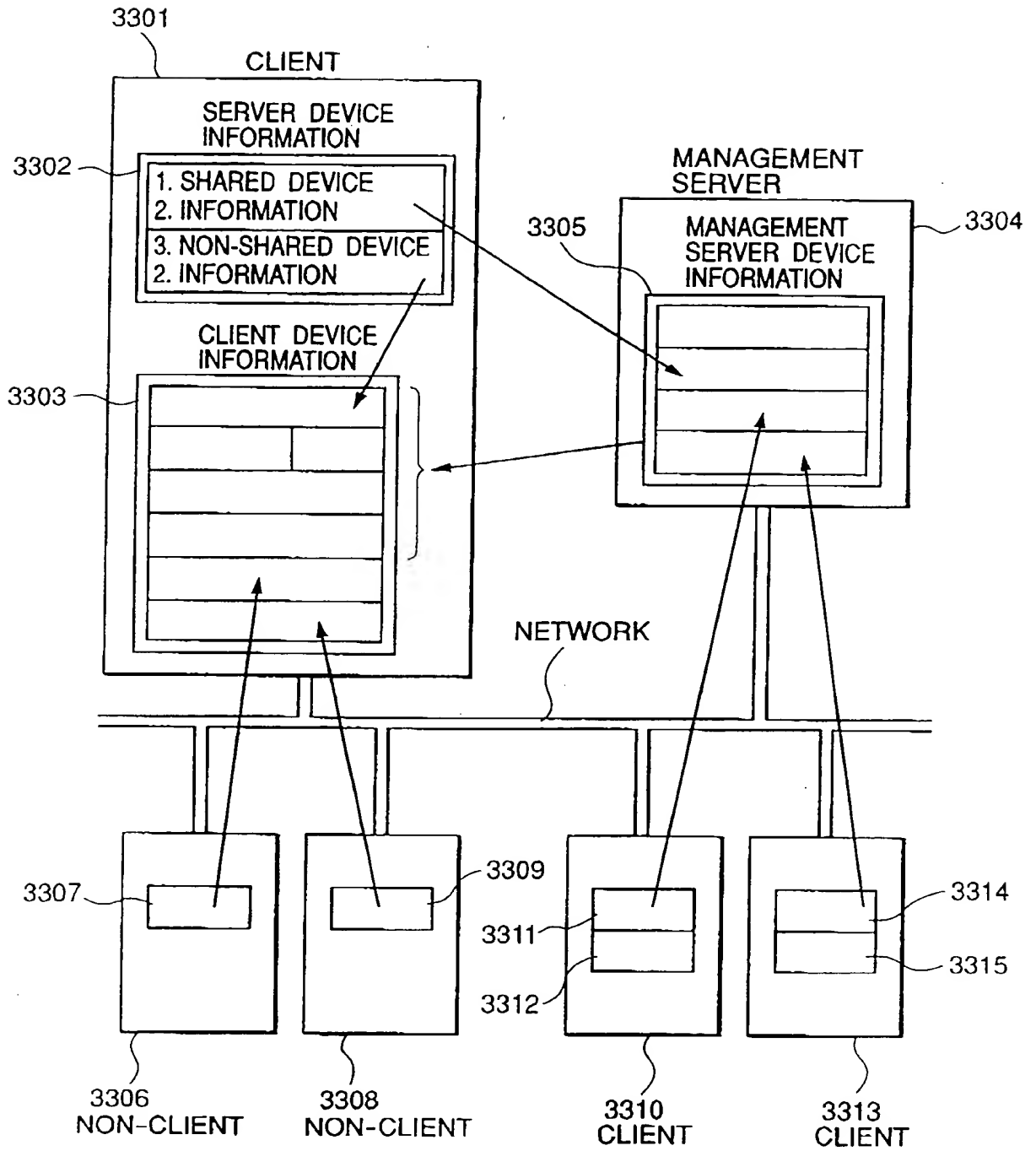
FIG. 33

FIG. 34

3305

| | | | |
|--------|---|------------------------------|-----------------------------------|
| 3401 | HEADER INFORMATION | VERSION | |
| | | INDEX TABLE NUMBER → N | |
| | | INDEX TABLE OFFSET | |
| 3402 | INDEX TABLE | ELEMENT [0] | DATA OFFSET |
| | | | DATA SIZE |
| | | | FLAG |
| | | ⋮ | |
| | | ELEMENT [N-1] | DATA OFFSET |
| | | | DATA SIZE |
| | | | FLAG |
| 3403-1 | 3404 PC INFORMATION | PC INFORMATION | PC NAME |
| | | | LOGON USER |
| | | | LICENSE INFORMATION |
| | | | OS INFORMATION |
| | | | PRINTER INFORMATION NUMBER → N0 |
| | | | SCANNER INFORMATION NUMBER → N1 |
| | | | FAX BOARD INFORMATION NUMBER → N2 |
| | 3405 CLIENT PC DEVICE INFORMATION DATA [0] | PRINTER INFORMATION [0] | |
| | | ⋮ | |
| | | PRINTER INFORMATION [N0-1] | |
| | | SCANNER INFORMATION [0] | |
| | | ⋮ | |
| | | SCANNER INFORMATION [N1-1] | |
| | | FAX BOARD INFORMATION [0] | |
| | 3406 3407 | ⋮ | |
| | | FAX BOARD INFORMATION [N2-1] | |
| | | ⋮ | |
| 3403-N | CLIENT PC DEVICE INFORMATION DATA [N-1] | PC INFORMATION | |
| | | PRINTER INFORMATION | |
| | | SCANNER INFORMATION | |
| | | FAX BOARD INFORMATION | |

FIG. 35APC INFORMATION 3404

| INFORMATION | CONTENTS |
|---------------------------------|--------------------|
| PC NAME | PC'S NET BIOS NAME |
| LOGON USER | PC'S LOGON USER |
| LICENSE INFORMATION | LICENSE NUMBER |
| OS INFORMATION | 95/98 OR NT |
| NUMBER OF PRINTER INFORMATION | |
| NUMBER OF SCANNER INFORMATION | |
| NUMBER OF FAX BOARD INFORMATION | |

FIG. 35BPRINTER INFORMATION 3405

| INFORMATION | CONTENTS | HOW TO OBTAIN |
|--------------------|---|---------------------------------------|
| PRINTER NAME | CONNECTION INFORMATION, PRINTER NAME | PPRINTERNAME IN PRINTER_INFO_2 |
| DRIVER NAME | CONNECTION INFORMATION, DRIVER NAME | PDRIVERNAME IN PRINTER_INFO_2 |
| SHARED NAME | CONNECTION INFORMATION, SHARED NAME IN THE NETWORK | PSHARENAME IN PRINTER_INFO_2 |
| PORT NAME | CONNECTION INFORMATION, PRINTER PORT INFORMATION | PPORTNAME IN PRINTER_INFO_2 |
| SHARED INFORMATION | CONNECTION INFORMATION, THE INFORMATION TO SHARE AS NETWORK PRINTER | PATTRIBUTENAME IN PRINTER_INFO_2 |
| SERVER NAME | CONNECTION INFORMATION, SERVER PC OF SHARED PRINTER | PSERVERNAME IN PRINTER_INFO_2 |
| COLOR INFORMATION | DEVICE ATTRIBUTE INFORMATION | DMCOLOR OF PDEVMODE IN PRINTER_INFO_2 |

FIG. 36ASCANNER INFORMATION 3406

| INFORMATION | CONTENTS | HOW TO OBTAIN |
|--|---|---|
| TWAIN SOURCE NAME | CONNECTION INFORMATION, TWAIN SOURCE NAME | OBTAINED BY TWAIN MANAGER TW_IDENTITY. PRODUCTNAME |
| SHARED NAME | CONNECTION INFORMATION, SHARED NAME IN THE NETWORK | UNDER VOS MANAGEMENT |
| SHARED INFORMATION | CONNECTION INFORMATION, SHARED INFORMATION LIKE PASSWORD IS SET OR NOT | UNDER VOS MANAGEMENT |
| MANUFACTURER NAME | DEVICE ATTRIBUTE INFORMATION, TWAIN MANUFACTURER NAME | STUB'S SNTGETSCANNER ATTRIBUTE 0 CAN GET THIS INFORMATION |
| ADF INFORMATION | DEVICE ATTRIBUTE INFORMATION, ADF CONNECTION INFORMATION | STUB'S SNTGETSCANNER ATTRIBUTE 0 CAN GET THIS INFORMATION |
| COLOR INFORMATION | DEVICE ATTRIBUTE INFORMATION, TWAIN DEVICE'S COLOR INFORMATION | STUB'S SNTGETSCANNER ATTRIBUTE 0 CAN GET THIS INFORMATION |
| UI INFORMATION | DEVICE ATTRIBUTE INFORMATION, SILENT UI OR NOT | STUB'S SNTGETSCANNER ATTRIBUTE 0 CAN GET THIS INFORMATION |
| THE FOLLOWING INFORMATION DOES NOT BE NEEDED FOR THE PURPOSE OF SHOWING THE SCANNER ICON. BUT VTD MUST CHECK THE TWAIN DRIVER VERSION WHEN IT IS CONNECTED TO REMOTE SCANNER, BECAUSE VTD SAVES THE INFORMATION OF CAPABILITIES AND MUST JUDGE IF THIS INFORMATION IS RIGHT OR NOT. THEREFORE IT MAY BE GOOD WAY TO SAVE THE FOLLOWING INFORMATION IN THIS SCANNER INFORMATION TABLE. THIS TOPICS IS NECESSARY TO DISCUSS WITH PECAN. IF YOU JUDGE THAT THE FOLLOWING ITEMS ARE NOT NEEDED, PLEASE TELL US | | |
| THE ELSE OF TW_IDENTITY | OTHER TW IDENTITY INFORMATION (VERSION OF TWAIN PROTOCOL, VERSION OF TWAIN DRIVER) | THE ELSE OF TW_IDENTITY INFORMATION (EX. TW_IDENTITY. PROTOCOLMAJOR, TW_IDENTITY. PROTOCOLMINOR, TW_IDENTITY. VERSION. MAJOR NUM, TW_IDENTITY. VERSION. MINOR NUM) |

FIG. 36BFAX BOARD INFORMATION 3407

| INFORMATION | CONTENTS | HOW TO OBTAIN |
|-------------|--|----------------------|
| SHARED NAME | CONNECTION INFORMATION, SHARED NAME IN THE NETWORK | UNDER VOS MANAGEMENT |

FIG. 37

3302 (3311, 3314)

| | | | |
|------|-----------------------------------|------------------------------|-----------------------------------|
| 3401 | HEADER INFORMATION | VERSION | |
| | | INDEX TABLE NUMBER → 1 | |
| | | INDEX TABLE OFFSET | |
| 3402 | INDEX TABLE | ELEMENT [0] | DATA OFFSET |
| | | | DATA SIZE |
| | | | FLAG |
| 3701 | LOCAL DEVICE INFORMATION DATA [0] | PC INFORMATION | PC NAME |
| | | | LOGON USER |
| | | | LICENSE INFORMATION |
| | | | OS INFORMATION |
| | | | PRINTER INFORMATION NUMBER → N0 |
| | | | SCANNER INFORMATION NUMBER → N1 |
| | | | FAX BOARD INFORMATION NUMBER → N2 |
| | | PRINTER INFORMATION [0] | |
| | | ⋮ | |
| | | PRINTER INFORMATION [N0-1] | |
| | | SCANNER INFORMATION [0] | |
| | | ⋮ | |
| | | SCANNER INFORMATION [N1-1] | |
| | | FAX BOARD INFORMATION [0] | |
| | | ⋮ | |
| | | FAX BOARD INFORMATION [N2-1] | |

FIG. 38

3303 (3312, 3315)

| | | | |
|--------|---------------------------------------|------------------------|-------------|
| 3401 | HEADER INFORMATION | VERSION | |
| | | INDEX TABLE NUMBER → N | |
| | | INDEX TABLE OFFSET | |
| 3402 | INDEX TABLE | ELEMENT [0] | DATA OFFSET |
| | | | DATA SIZE |
| | | | FLAG |
| | | ⋮ | |
| | | ELEMENT [N-1] | DATA OFFSET |
| | | | DATA SIZE |
| | | | FLAG |
| 3701 | LOCAL DEVICE INFORMATION DATA | PC INFORMATION | |
| | | PRINTER INFORMATION | |
| | | SCANNER INFORMATION | |
| 3403-1 | CLIENT PC DEVICE INFORMATION DATA | PC INFORMATION | |
| | | PRINTER INFORMATION | |
| | | SCANNER INFORMATION | |
| 3403-N | CLIENT PC DEVICE INFORMATION DATA | ⋮ | |
| | | PC INFORMATION | |
| | | PRINTER INFORMATION | |
| 3407 | NON-CLIENT PC DEVICE INFORMATION DATA | SCANNER INFORMATION | |
| | | PC INFORMATION | |
| | | PRINTER INFORMATION | |
| 3409 | NON-CLIENT PC DEVICE INFORMATION DATA | ⋮ | |
| | | PC INFORMATION | |
| | | PRINTER INFORMATION | |

FIG. 39

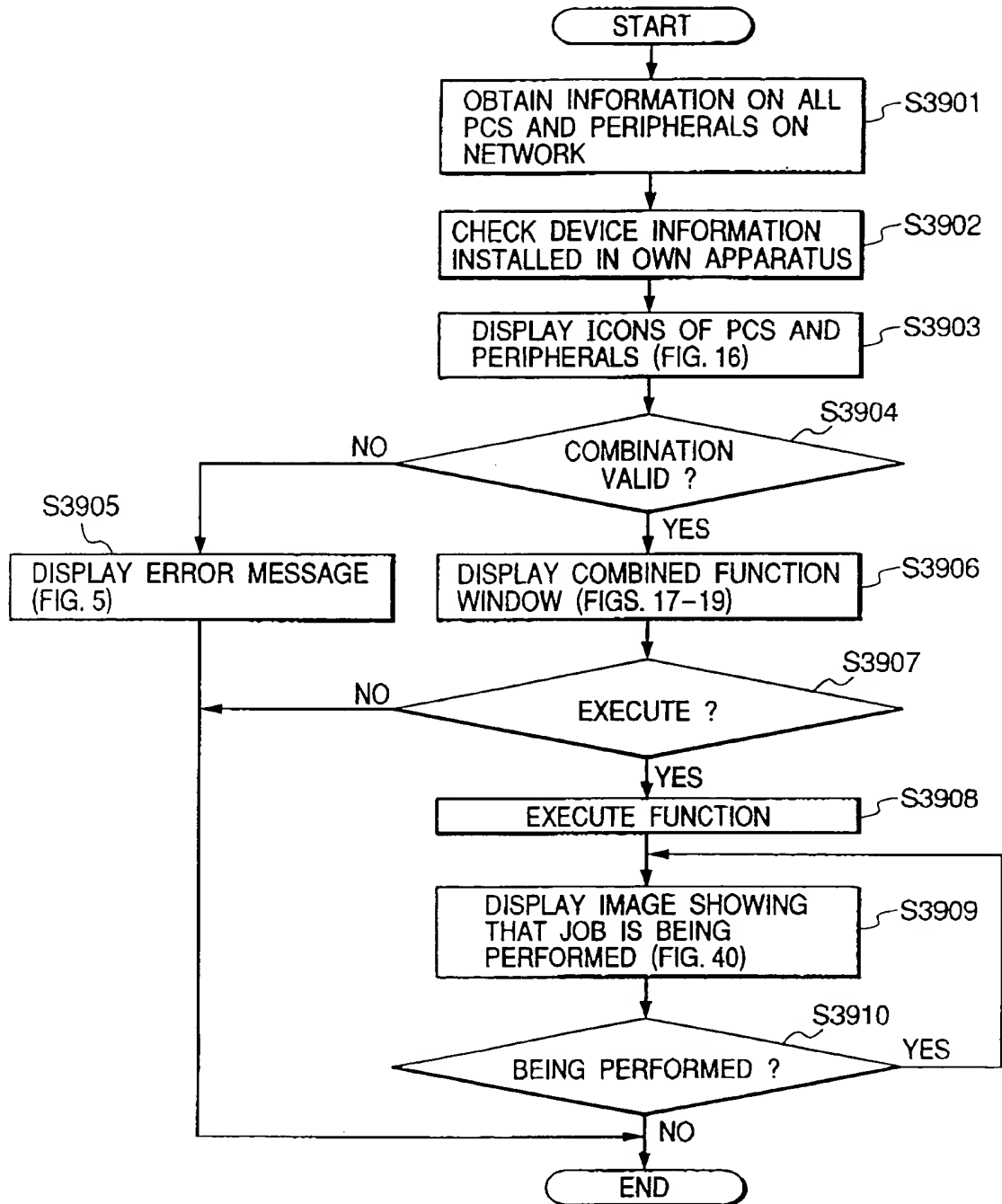


FIG. 40

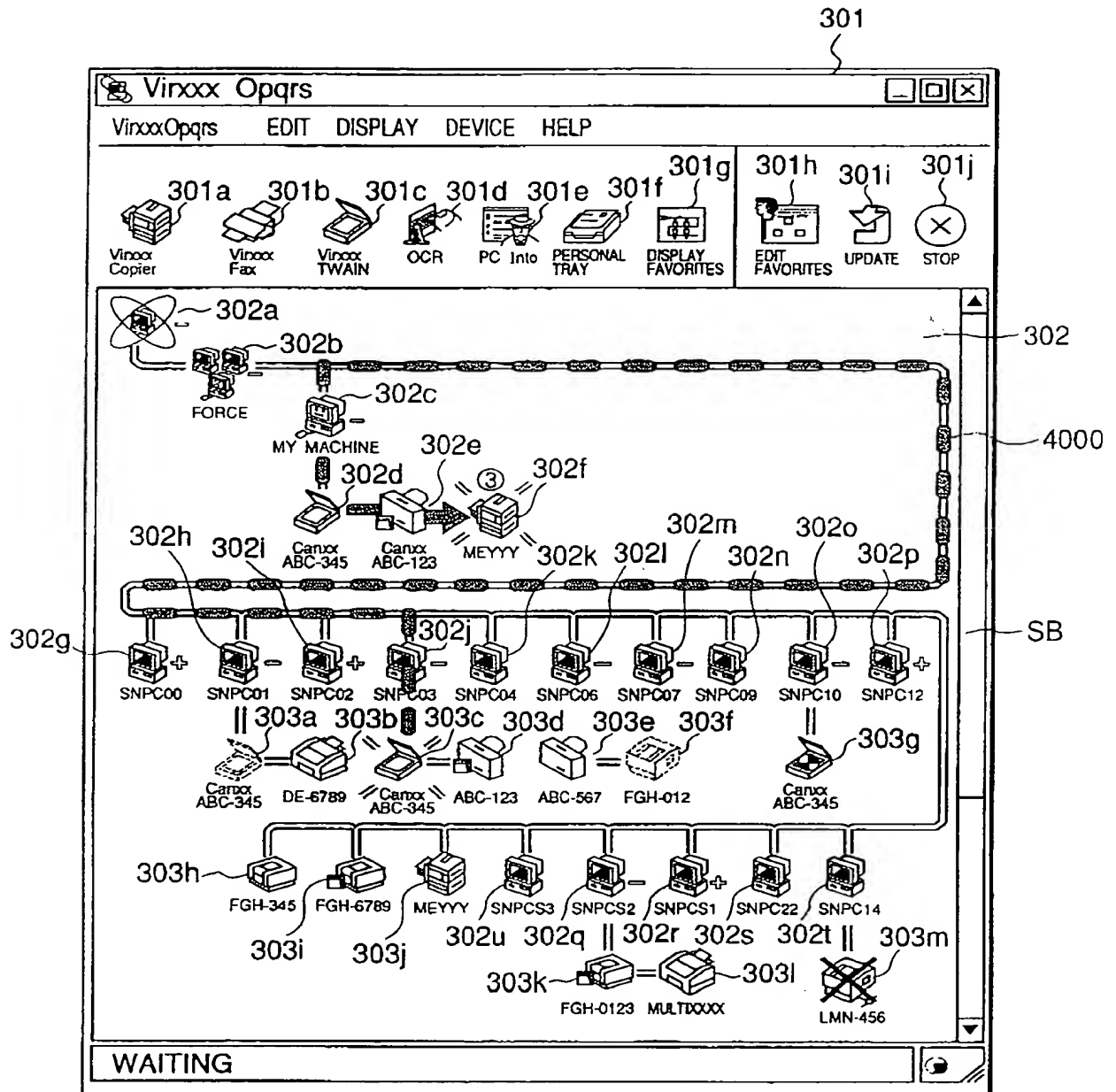


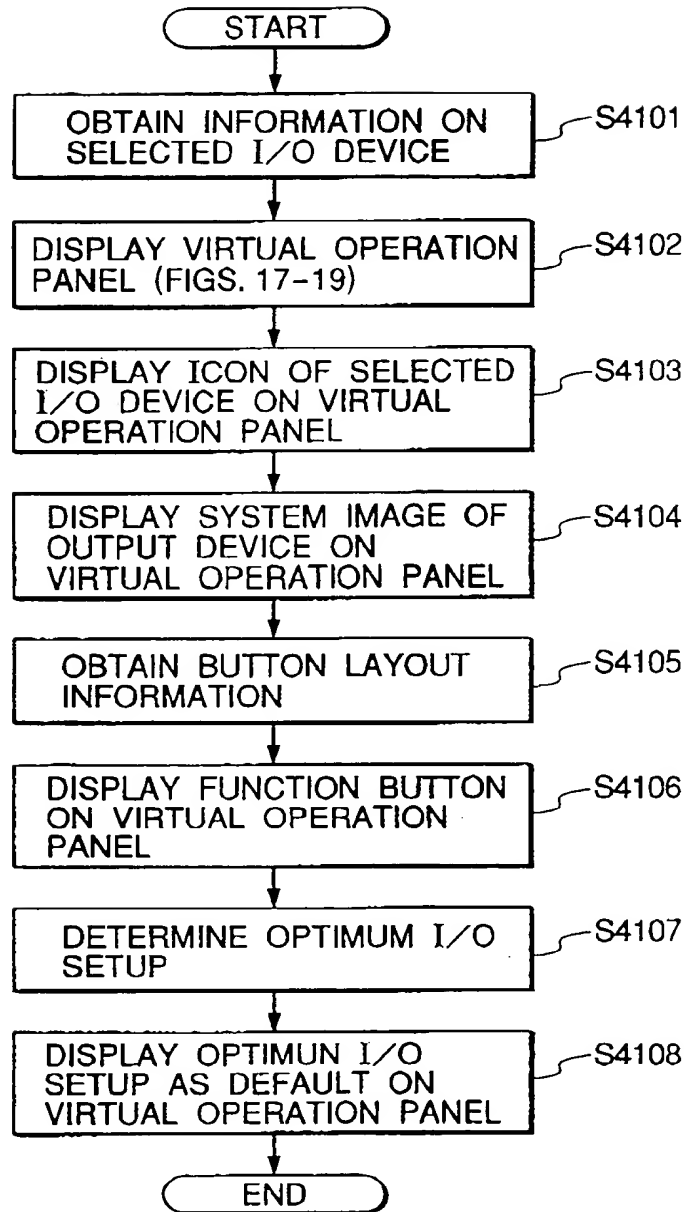
FIG. 41

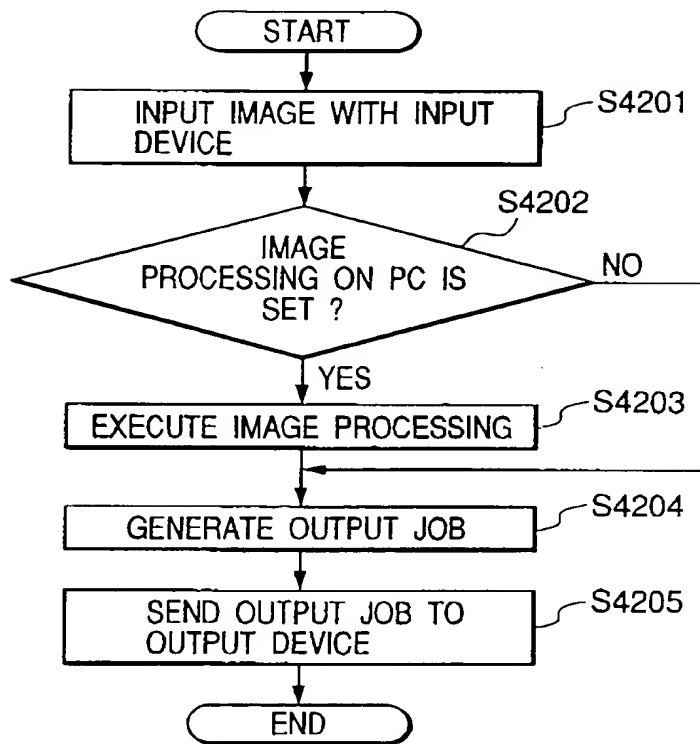
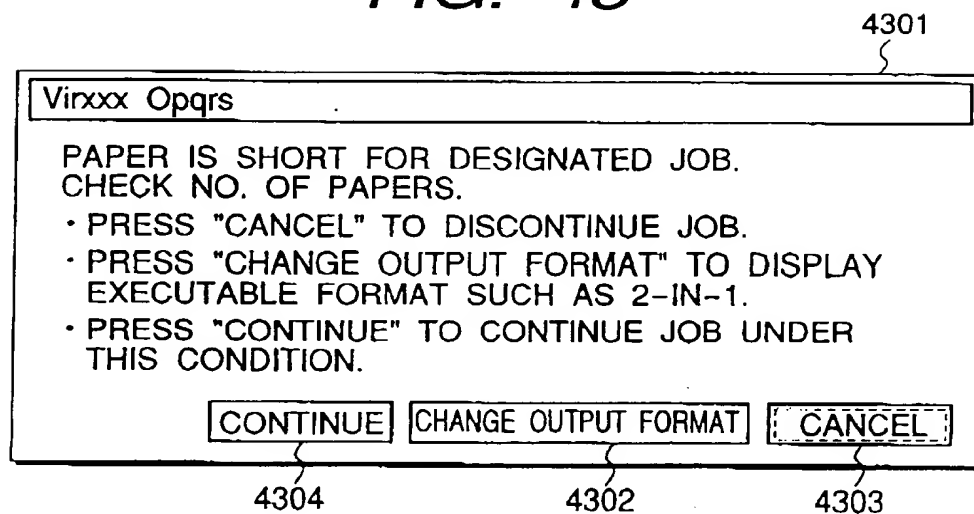
FIG. 42**FIG. 43**

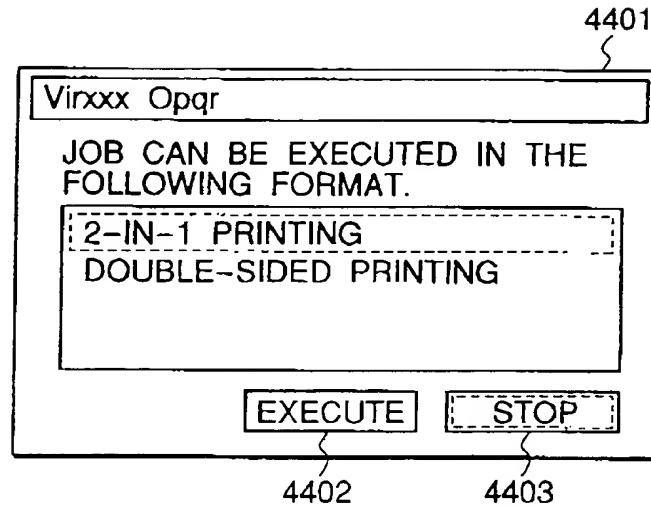
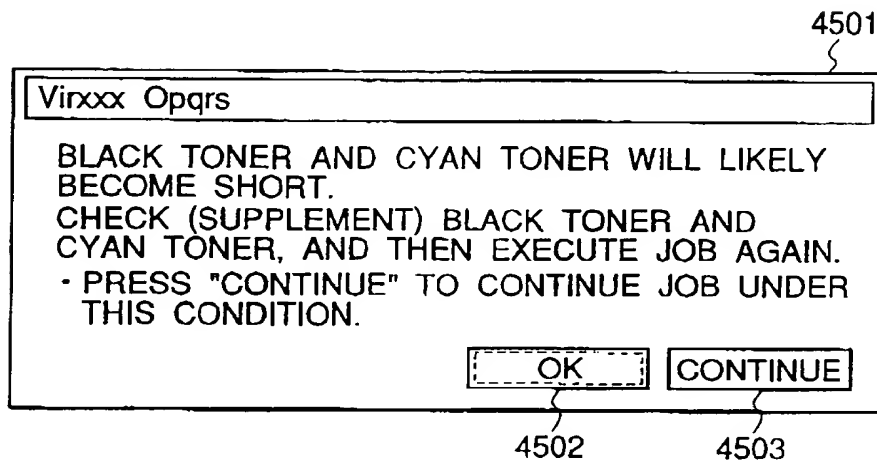
FIG. 44*FIG. 45*

FIG. 46

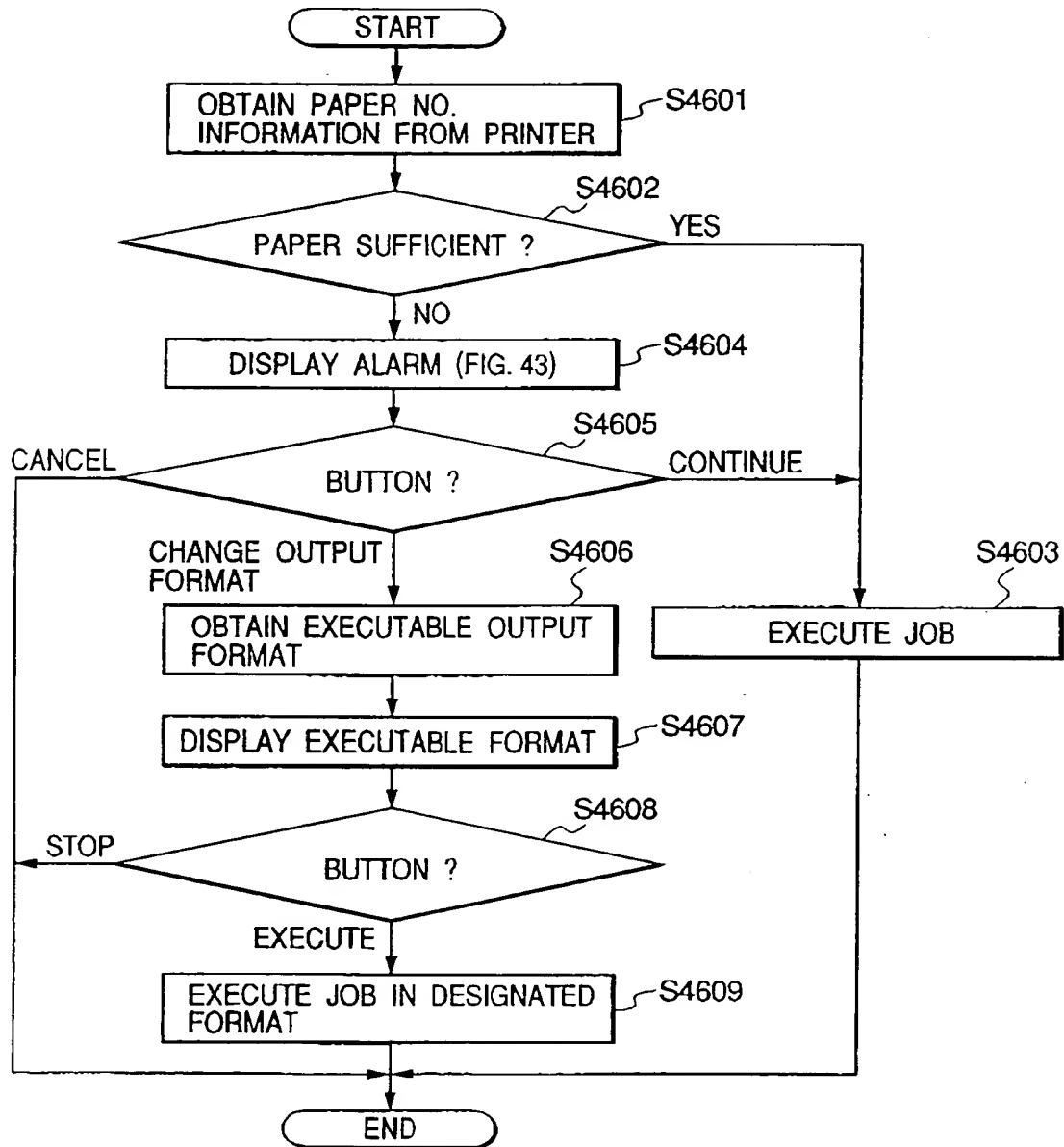


FIG. 47

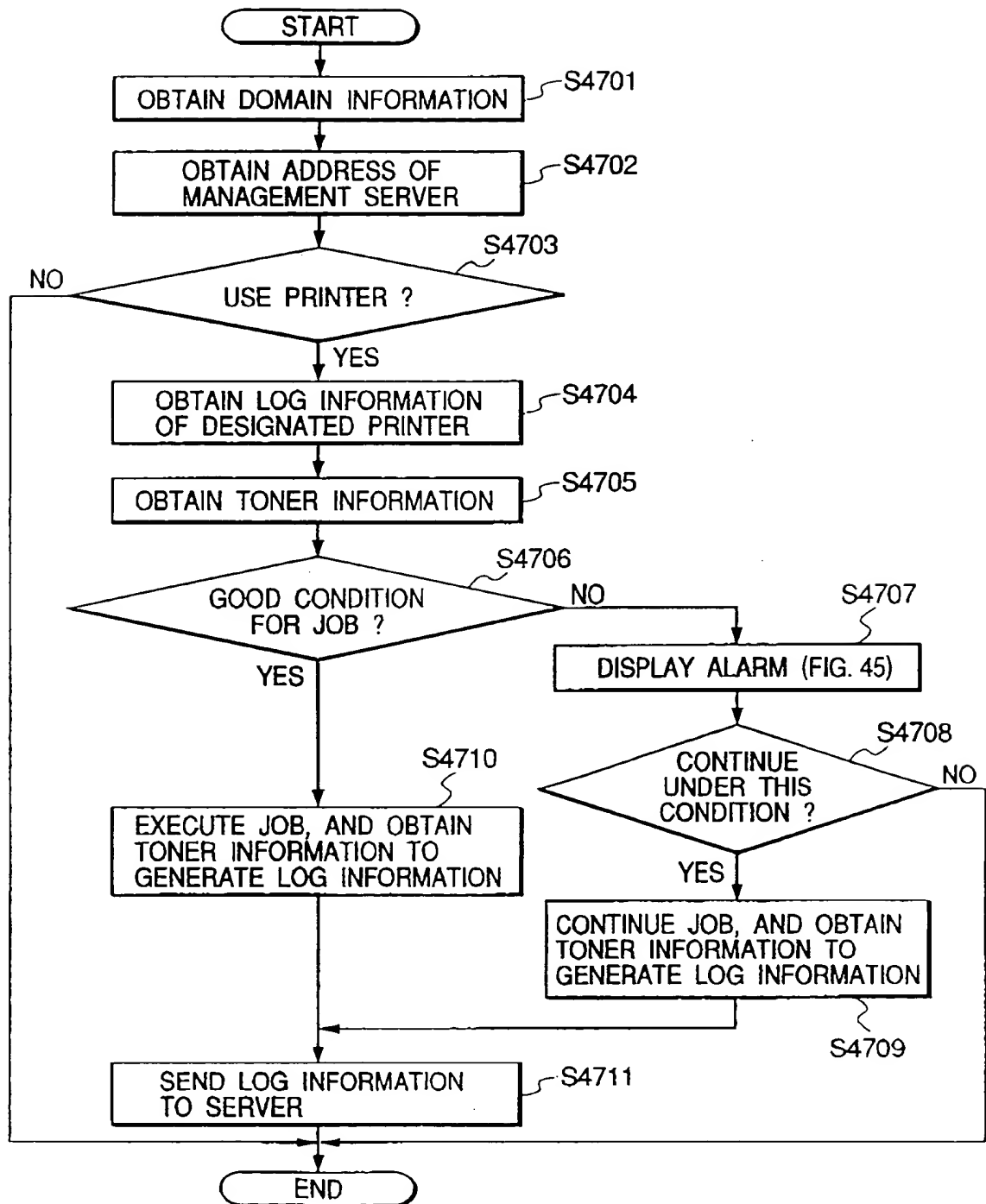


FIG. 48

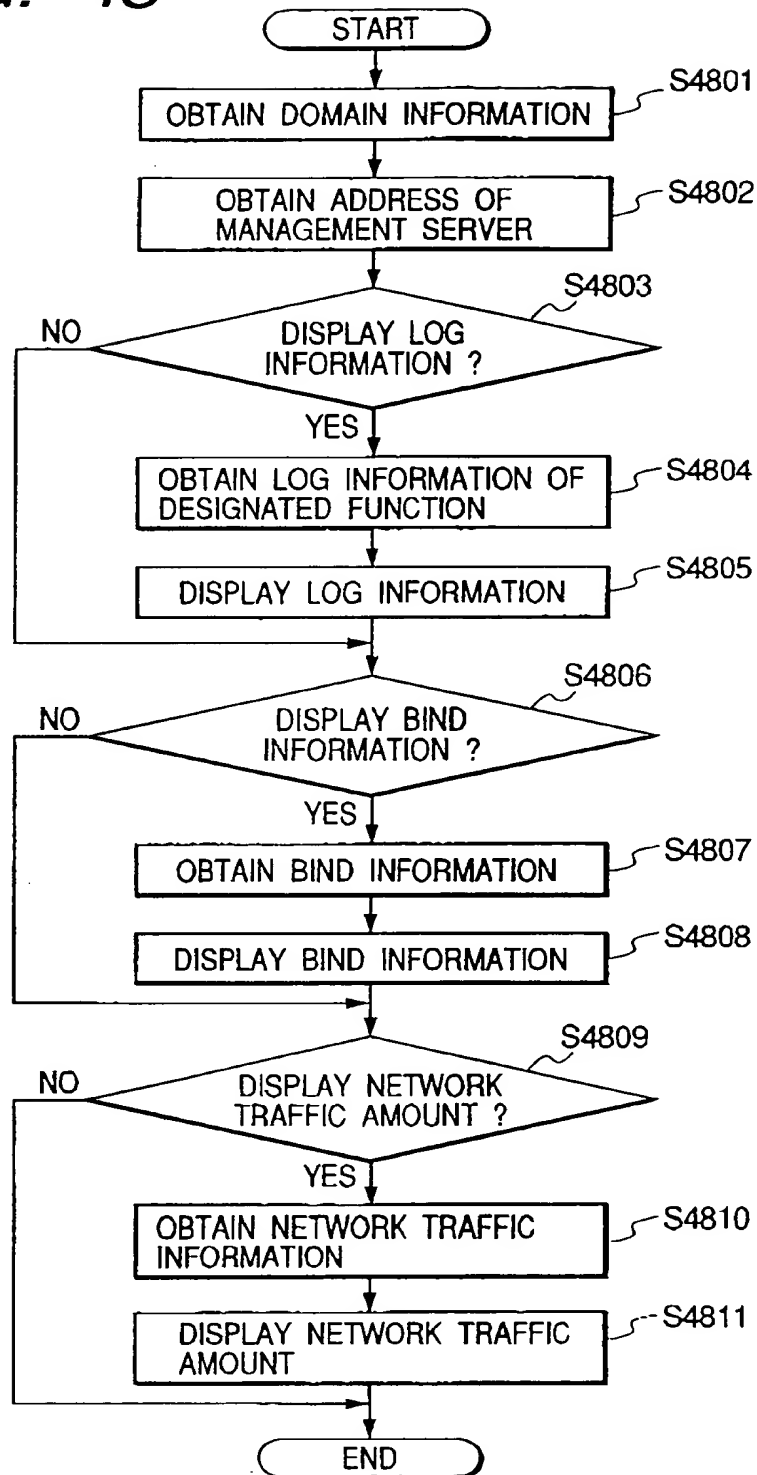


FIG. 49

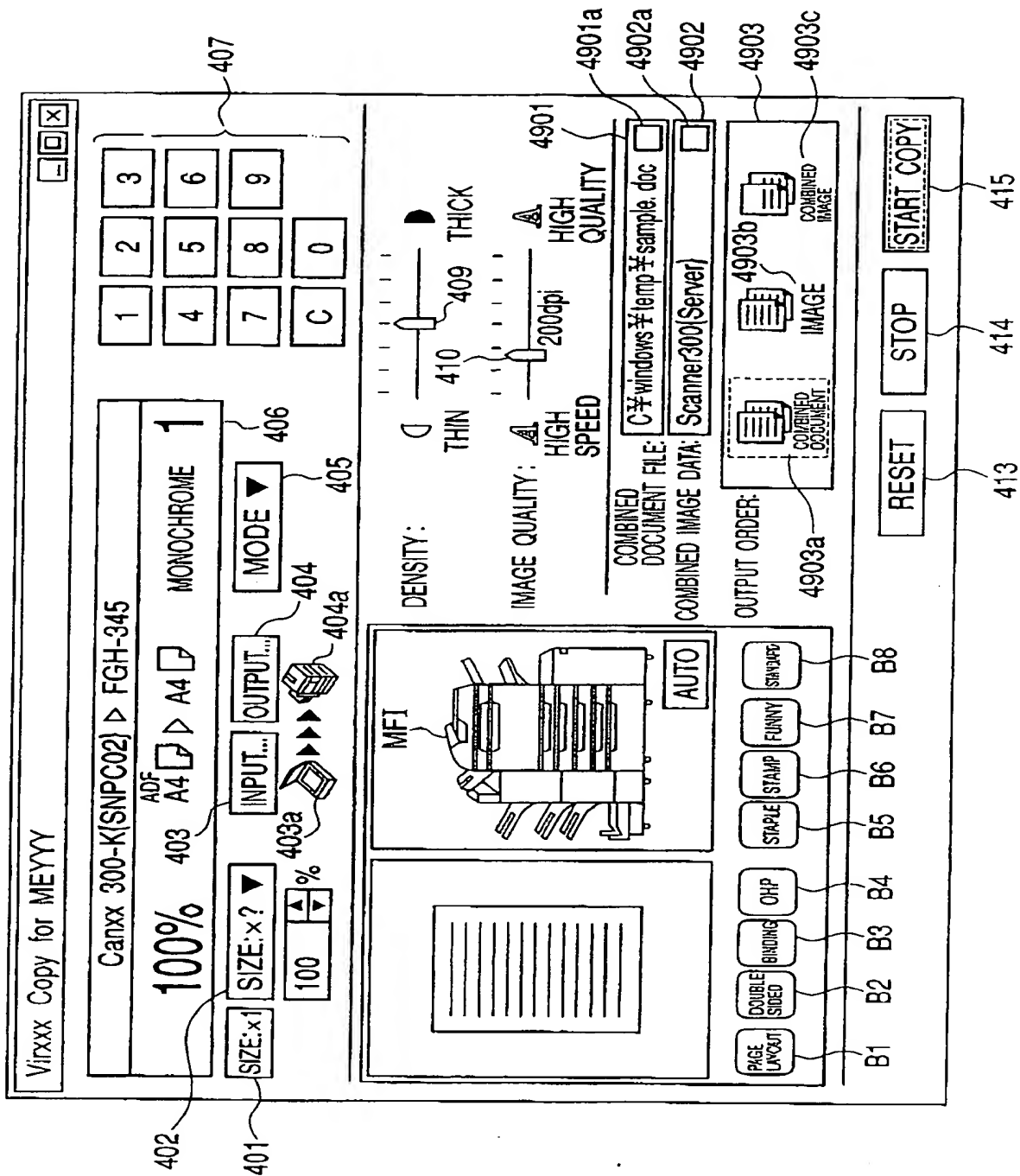


FIG. 50

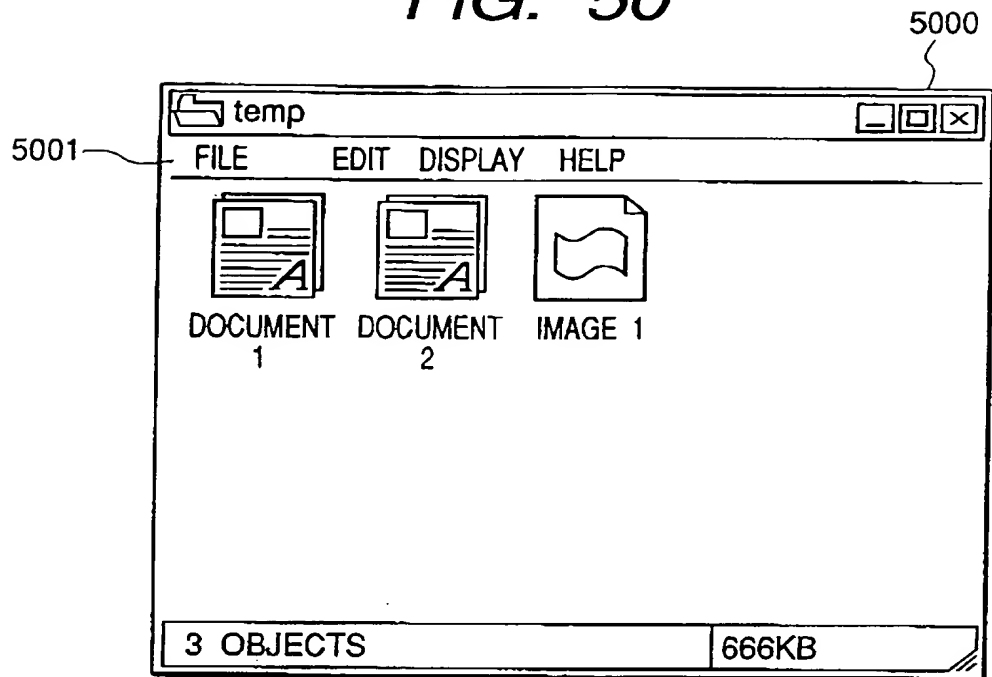


FIG. 51

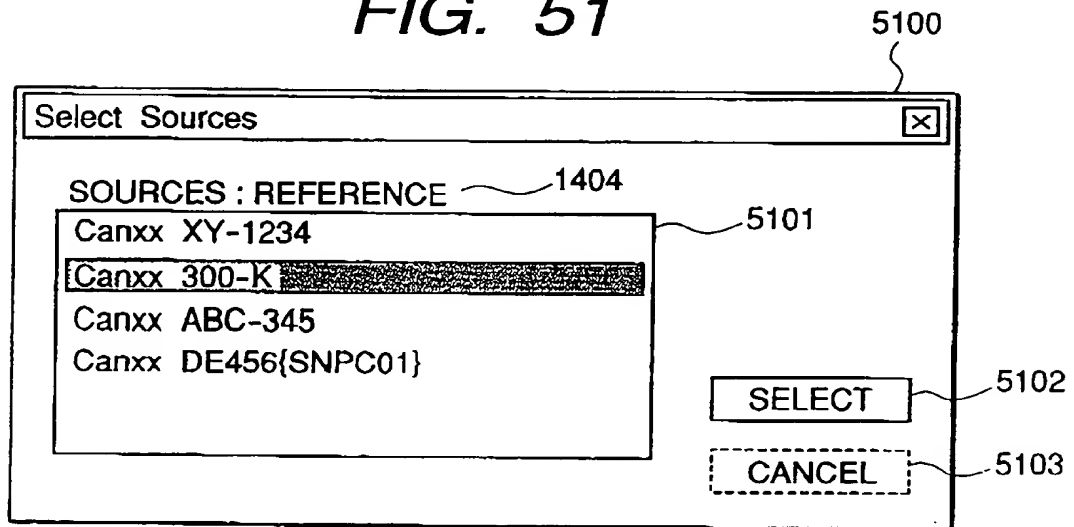


FIG. 52

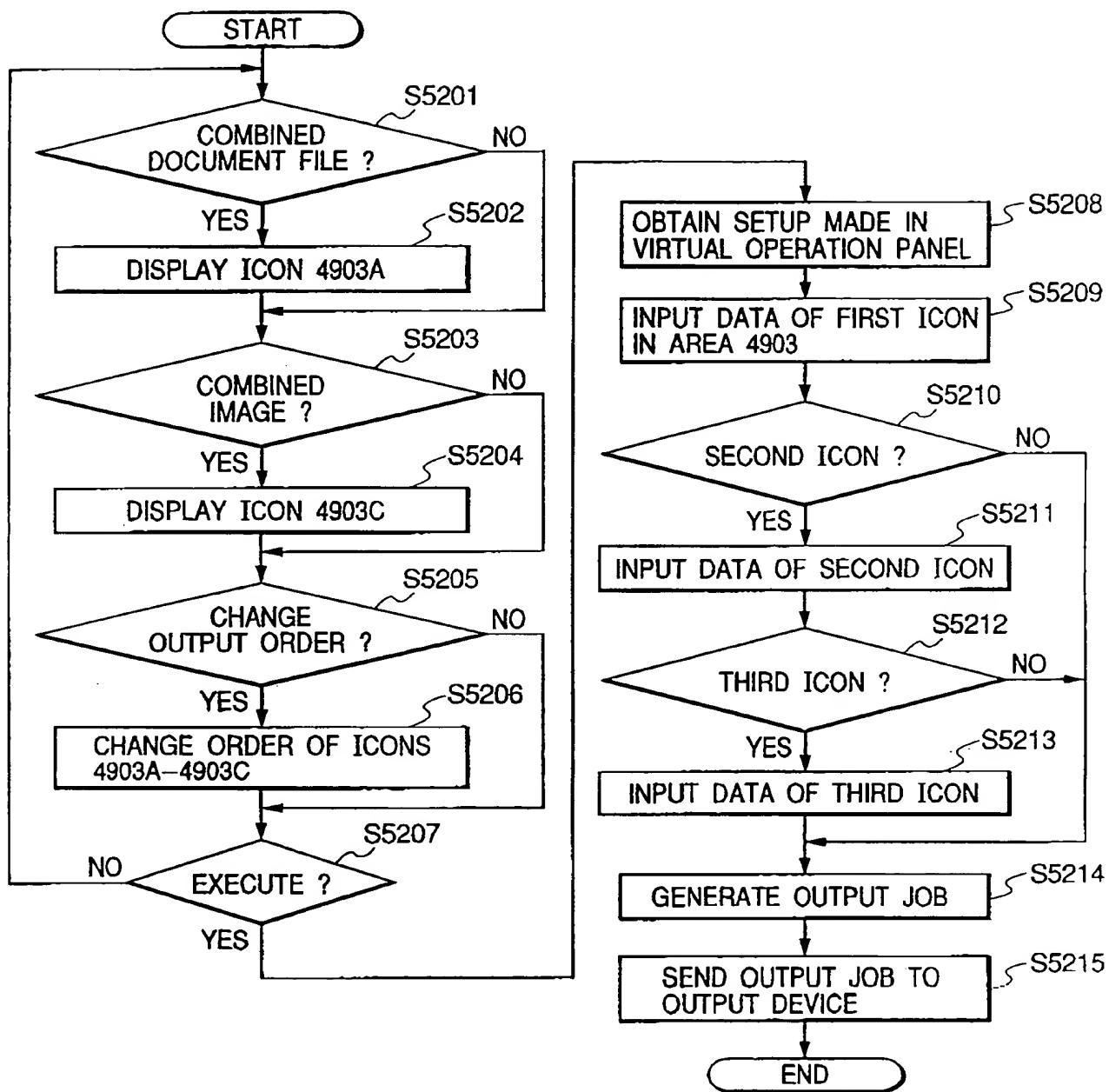


FIG. 53